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A RESEARCH DESIGN FOR THE MILL WOODS IMPACT STUDY

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A RESEARCH DESIGN FOR THE
MILL WOODS IMPACT STUDY

A RESEARCH DESIGN
PREPARED FOR
ALBERTA HOUSING CORPORATION
CENTRAL MORTGAGE AND HOUSING CORPORATION
THE TASK FORCE ON URBANIZATION AND THE FUTURE

BY STUART M. McFADYEN
ASSISTED BY CHRISTIAN T.L. JANSSEN

JUNE 1973

Preface

Stuart McFadyen, associate professor in the Faculty of Business Administration and Commerce at The University of Alberta, is the author of this report. Professor McFadyen is a chartered accountant and urban economist who holds a doctor of philosophy degree in economics from the University of California (Berkeley).

Professor McFadyen has been assisted in the preparation of the report by Christian T.L. Janssen, associate professor in the Faculty of Business Administration and Commerce at The University of Alberta. Professor Janssen has prepared the material concerning data problems and the ongoing monitoring program discussed in Section IV. Professor Janssen, who serves as Associate Dean, Undergraduate Studies of the Faculty, holds the degree of doctor of philosophy in the area of managerial economics from Cornell University.

The author has benefited greatly from continuing consultations with an advisory group consists of representatives of the Central Mortgage and Housing Corporation, Alberta Housing Corporation, Task Force on Urbanization and the Future, Edmonton Regional Planning Commission, Mill Woods Project and Planning Department of the City of Edmonton.

We wish to express appreciation for the continuing participation in the work of the advisory group of the following individuals:

Victor Virak, John Martin, Heiko Lotzgeselle,
Frank Marlyn, Eugene Dmytruk, Phil Ellwood,
William Thoman, and Walter Walchuk.

The research proposals are however those of the author and not the advisory committee.

Forward

Adequate evaluation of the research proposals put forward in this document requires that both the scope of the projects and the methodology employed be put in their proper perspective.

On the question of scope we have chosen to focus our attention on the rural-urban land conversion process and on the role which a land bank plays in this process. This has been done because of the important role which land costs play in total housing costs and because of the unique opportunity in the Edmonton sub-region to study a large North American land bank operation. On the question of land bank impact limited attention has been given to the certain aspects of the problem such as the impact on the rate and form of metropolitan growth and the impact on planning effectiveness. In our judgement these are matters which although significant are of a lesser order of importance than the matters which we have chosen to examine. In addition it seems less likely that research into these questions will result in useful results. Certain other methods such as the whole question of housing market analysis and demand projection and examination of the role which other inputs into housing such as building materials and interest rates play have been set aside. These are

important matters. However they fall outside the terms of reference of a Mill Woods impact study. If one tries to tackle every question a good job will be done on none.

On the question of methodology it should be recognized that research is an area where there traditionally has been and probably always will be differences of opinion among academics. We wish to emphasize therefore that the proposals contained in this report are not necessarily the only approaches possible to the problems identified. Rather, they represent a set of projects that will provide a sound understanding of the process of converting land from rural to urban uses and provide the guidelines required for the data collection and analysis required for continuing land market monitoring.

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Summary of Recommendations

In a market that is losing all sense of value, a man's home today is priced like a castle.

...
In nearly all areas the rising costs of houses are slowly putting the dream of a family home out of reach of many young families.¹

This is the U.S. The situation in Canada is worse. Dr. Alex Laidlaw, senior advisor on co-operative housing in the Central Mortgage and Housing Corporation has observed "Canadians pay more of their disposable income on housing than people of any other western nation. And they end up neglecting other things in life."² This situation has brought about an outcry for public action.

Land costs make up a substantial proportion of total dwelling unit costs and urban land costs have increased rapidly in recent years. The Edmonton Journal under the banner headline "The Skyrocketing cost of Edmonton housing" report that

In July, 1971, ... a 1340 square foot Nu-West Californian with 1½ baths, could be built on a serviced lot costing \$8,000. Now a comparable lot sells for about \$13,000.

¹Edmonton Journal, June 16, 1973, p. 74.

²Edmonton Journal, May 15, 1973, p. 5.

The total price of this house on a serviced lot was \$29,895 in 1971. Today the total price is \$42,175.³

Clearly the urban land market is not operating efficiently and in the best interest of Canadians.

The major policy response in the Edmonton sub-region has been the creation of the Mill Woods land bank. The research proposals discussed in this report deal primarily with an evaluation of the impact of Mill Woods on the rural-urban land conversion process. Mill Woods, however, represents only one portion of the urban land market. To properly evaluate its impact we must have some understanding of two other areas. First, how the private sector of the land market operates and how it is likely to be affected by land bank operations. Secondly, how various public policies in related areas such as zoning and servicing influence the efficiency of the suburban land conversion process.

Since cost control is the principal objective of the Mill Woods land bank the first order of business must be an examination of the trend in residential lot prices in the Edmonton sub-region from say 1960 forward (Project 1).

³Edmonton Journal, June 16, 1973, p. 1.

Next, at five year intervals the components of the cost of residential lots should be factored out. These cost elements should include changes in lot size, improvement cost, agricultural opportunity value of land, and a residual element of scarcity rents. (Project 2) This will identify clearly the components of land costs which have increased most rapidly.

- *Having identified the components of land cost increases, what can be done to control each component?*
- *What effect can the land bank have on each component?*

Project 2 will put each of the components in its proper perspective and focus attention on the areas where important cost control contributions can be made.

- *How important are services in total land costs?*
- *Is public or private sector servicing more important?*
- *What steps can be taken to control servicing costs?*

Project 3 will tackle these questions through an examination of the realized costs of public provision of improvements and a comparison to private sector development costs.

- *Is there any validity to the charge that development controls and subdivision and zoning delays unduly restrict the supply of serviced lots?*
- *If so, where do these restrictions and delays occur and what can be done to eliminate them?*

Project 4 will examine the interrelationships between the public sector and the private developer focusing in particular on a measurement of the importance of fiscal zoning, unduly slow or restrictive development controls, and restrictive servicing policies.

- *To what extent do the private sector land sellers possess monopoly power?*
- *What effect does this have on the marketing strategy of Mill Woods?*
- *What effect will alternative levels of price and output of Mill Woods lots have on the prices and output of the private sector of the land market in the Edmonton sub-region?*

Answers to these questions require a comprehensive investigation of the private sector land market in the Edmonton sub-region. (Project 5)

- *What is the pattern of land prices in the area surrounding the City of Edmonton?*
- *What are the implications of this price pattern for satellite city development?*
- *What effect does the pattern have on the evaluation of proposed transportation improvements?*

To evaluate the relative importance of various elements of natural scarcity of urban land for residential purposes, data on these elements (distance from city centre, natural amenities, conflicting uses) should be gathered for a

systematic sample of properties and the relative importance of the various factors should be estimated using multiple regression analysis. (Project 6)

- *Do land bank operations increase the access of lower income persons to the housing market?*
- *What benefits do still lower income groups reap as a result of purchasing the homes sold by those moving to Mill Woods?*
- *Whose incomes are increased and whose incomes are decreased when a land bank is established?*

Differences between free market prices and prices actually charged, cause redistributions of income towards lot-buyers and away from land owners. The socio-economic characteristics of these two groups and the total nature of the subsidy involved should be examined (Project 8). In addition the socio-economic characteristics of other persons who benefit from purchasing houses handed down by those moving to Mill Woods should be investigated.

- *Given forecasts of population growth in the Edmonton sub-region how much land will be needed annually and over the next ten years?*
- *How do these requirements compare with the supplies presently envisaged?*

Project 8 proposes development of the data base and analysis required to provide on-going monitoring of demand and supply pressures on the urban land market in this area.

The development of an on-going monitoring system is a prime element in the implementation of the findings of the first seven research projects. All of these are matters where important decisions must be made.

- What is to be done in each of these areas?

As the Edmonton Journal states "[Although] there is a strong body of opinion that housing prices are 'atrocious' and 'absurd,' ... there is no generally agreed-upon remedy." There will be no agreement until there is an understanding of why land costs are increasing and what various policies such as land banking can hope to achieve. The research projects which we are proposing can provide a basis for such an understanding.

Budget Estimates

Project 1

Examination of the trend in residential lot prices
in the Edmonton sub-region

1 Junior one-fourth time for one year

Project 2

Identification of the components of the increase
in land costs

1 Senior full-time for one year

2 Juniors full-time for one year

Project 3

Measurement of the influence of the level of
improvement costs on residential land costs

1 Senior full-time for one year

1 Junior full-time for one year

Project 4

Measurement of the influence of public sector
supply restrictions (zoning and servicing delays)
on residential land costs

(i) Fiscal zoning uses output of Project 3 Nil

(ii) Zoning and servicing procedures

Project 5

Study of the industrial organization of the private
sector land market and identification of the nature
of private sector restrictions on land supply

2 Seniors three-fourths time for one year

2 Juniors three-fourths time for one year

Project 6

Measurement of the value of various elements of natural scarcity of urban land

- 1 Senior half-time for one year
- 4 Juniors half-time for one year

Project 7

Identification of those groups whose incomes are increased or decreased by land bank operations and measurement of the extent of income redistribution involved

- 1 Senior full-time for one year
- 3 Juniors full-time for one year

Project 8

Collection and analysis of data necessary to provide a continuing monitoring of the Edmonton land market and the impact of the Mill Woods land bank thereon.

Since these activities would of necessity be carried out by staff of existing agencies the cost estimates would involve a review by these agencies of their present staff and work programs.

SECTION I

INTRODUCTION

Rapid increases in housing prices in recent years are preventing many Canadians from purchasing their own homes. (Discussed in Section II and IV.) Those who are able to purchase their own homes are forced to devote inordinately large proportions of their incomes to housing costs. These circumstances have brought about an outcry for public action.

Land costs make up a substantial proportion of total dwelling unit costs and urban land costs have increased rapidly in recent years. These circumstances have focussed attention on the important role which land costs have played in elevating housing prices beyond the reach of the average Canadian. There is disagreement regarding the contributing causes behind the rapid escalation of land costs, and different groups are blaming each other. However major improvements in the operation of the urban land market and in the process of converting land from rural to urban uses are called for. The overall thrust of the research program outlined in this report is to discover inefficiencies in the rural-urban land conversion process, to measure their importance and to suggest positive corrective measures.

The creation of the Mill Woods land bank has provided an important public sector intervention in the suburban land conversion process in the Edmonton sub-region. The agencies concerned with the urban growth process wish to discover what impact the Mill Woods land bank has had on suburban land conversion process. The research program outlined in this report has been designed to evaluate this impact.

Mill Woods, however, represents only one portion of the urban land market. To properly evaluate its impact we must have some understanding of two other areas: First, how the private sector of the land market operates and how it is likely to be affected by land bank operations, and secondly, how various public policies in related areas such as zoning, subdivision approval, and servicing influence the efficiency of the suburban land conversion process.

In all of these areas, long range strategic and short range day-to-day decisions must be made. The quality of decision making can be no better than the information provided to decision-makers. The research proposals outlined in this report are designed to improve decision-making by providing answers to the following questions:

- *Has the Mill Woods project been successful so far?*
- *What has been achieved to date?*

- Given forecasts of population growth in the Edmonton sub-region how much land will be needed annually and over the next ten years?
- How do these requirements compare with the supplies presently envisaged?
- What is the pattern of land prices in the area surrounding the City of Edmonton?
- What are the implications of this price pattern for satellite city development?
- What effect does the pattern have on the evaluation of proposed transportation improvements?
- To what extent do the private sector land sellers possess monopoly power?
- What effect does this have on the marketing strategy of Mill Woods?
- What effect will alternative levels of price and output of Mill Woods lots have on the prices and output of the private sector of the land market in the Edmonton sub-region?
- How important are services in total land costs?
- Is public or private sector servicing more important?
- What steps can be taken to control servicing costs?
- Is there any validity to the charge that delays in zoning and development controls unduly restrict the supply of serviced lots?
- If so, where do these delays occur and what can be done to eliminate them?

All of these are matters where important decisions must be made. In some areas such as servicing costs or

residential lot requirements hard quantitative estimates can be developed. In other areas such as the market structure and conduct of the private sector of the urban land market, the best that may be possible is a greatly improved understanding of the processes in operation. The completion of the various research projects proposed in this report will not ensure that improved decision-making will occur. However, it will make such an outcome not only possible but much more likely. The results of the research projects will provide the basic understanding of the rural-urban land conversion process that is a prerequisite of intelligent decision-making and will provide the guidance required to establish adequate data collection and analysis program for the purpose of providing ongoing monitoring of the urban land market in the Edmonton sub-region and the impact of the Mill Woods land bank thereon.

The economic implications of urban land banking are analysed in Section II of this report. This theoretical analysis provides the basis for the research program outlined in Section III. Section IV presents the data requirements of the research proposed, describes the data presently available and considers the problems involved in implementing an ongoing monitoring system to evaluate the Mill Woods land bank. Section V contains budget estimates for the various projects.

SECTION II

THE ECONOMIC IMPLICATIONS OF URBAN LAND BANKING

Public land assembly and subsequent sale of residential land from urban land banks has been practiced in European countries for a number of years.¹ Although provision has been made in the National Housing Act for public land assembly since 1949 the practice has been much less common in Canada.

In recent years much concern has been expressed in Canada that the process of converting land from rural to urban and suburban uses has been working badly and is needlessly costly. The comments of A.F. Laidlaw in a recent issue of Canadian Consumer are a good example of the nature of this criticism.

The chief *bête noire* in the housing picture, as everyone knows, is land. Canada, pictured by many as a country of vast spaces crying for occupants, is fast becoming a country where land speculation and costs of servicing have driven prices to unconscionable levels; most of the available land is not in public hands as one would expect in an enlightened nation, but in the hands of a few developers, under whose control the future design of our cities is largely taking place.²

¹Michael Dennis and Susan Fish, *Programs in Search of a Policy*, (Toronto: Hakkert, 1972), p. 327.

²A.F. Laidlaw, "The Consumer and Housing," *Canadian Consumer* (Ottawa: Consumers Association of Canada), April, 1973, Vol. 3, No. 2, p. 10.

In this paper we shall briefly consider the nature of the suburban land conversion process and then focus on the role that urban land banking can play in improving this process. We will review the arguments of previous reports which have dealt with the use of land banks and will then analyze the effect which an urban land bank can be expected to have on land prices, resource allocation, income redistribution and the urban planning process.

The Problem of Urban Land Prices

The Canadian experience of a rapid rise in urban land prices in comparison to prices for goods in general, or for residential construction has been documented in the study Programs in Search of a Policy by Michael Dennis and Susan Fish.³ Charts 1, 2, and 3 which follow are drawn from the Dennis report.

Chart 1 shows for the period 1961-1970 that NHA land costs have risen more rapidly than real gross national product, NHA construction costs, the shelter component of the consumer price index, or the gross national expenditure price deflator. Construction wage rates and debt service charges on new NHA dwellings have on the other hand risen more rapidly than land costs.

³Michael Dennis and Susan Fish, op. cit.

Chart 2 shows for the period 1961-1970 the trend in total cost of new NHA bungalows compared with the land component for six Canadian cities and for Canada as a whole.

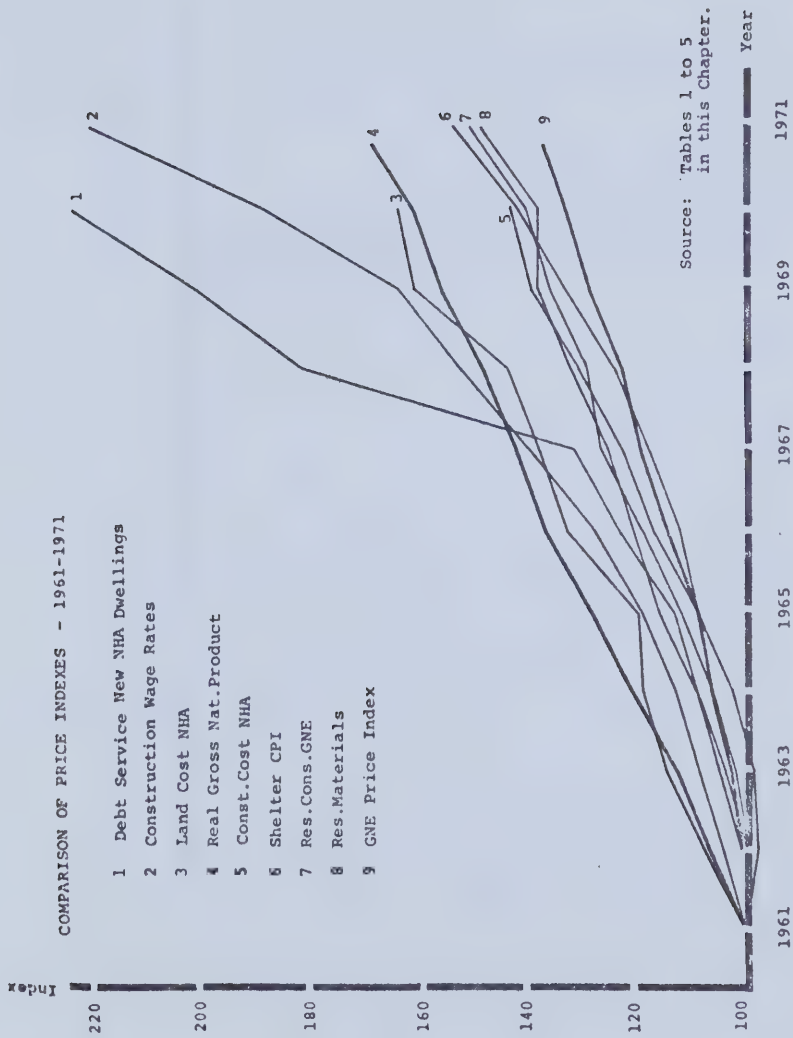
Chart 3 presents for these cities for the same period the indexes of land costs and construction costs per square foot for new NHA bungalows.

All of this material points to the same conclusion. Land costs have indeed been rising rapidly since 1961 and they have been rising much more rapidly than construction costs or the prices of goods in general. Section IV presents additional data supporting the view that land prices in the Edmonton sub-region have increased considerably in recent years.⁴

These high land prices are properly a matter of public concern for two reasons. Firstly they reduce the chances of people becoming homeowners and affect the quality of housing they can afford. Secondly since large areas of land surrounding Canada's major cities are being converted annual from rural to urban uses large sums of money are involved. Unwarranted increments in land prices involve large income redistributions. What can urban land banks do to meet these problems?

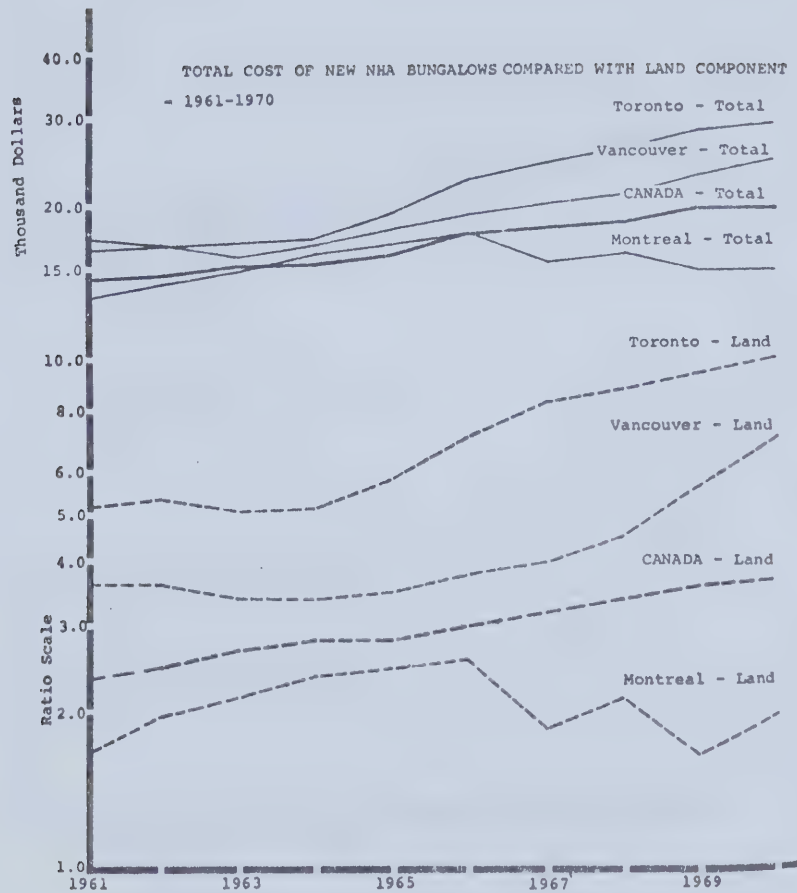
⁴In addition it might be noted that there is considerable variation in price increases among metropolitan areas. Generalization of the results of the study of a single city might be hazardous. Separate case studies might be required for comparative purposes.

CHART 1



Source: Michael Dennis and Susan Fish, Programs in Search of a Policy, (Toronto: Hakkert, 1972).

Chart 2



Source: Michael Dennis and Susan Fish, Programs in Search of a Policy, (Toronto: Hakkert, 1972).

Chart 2 (continued)

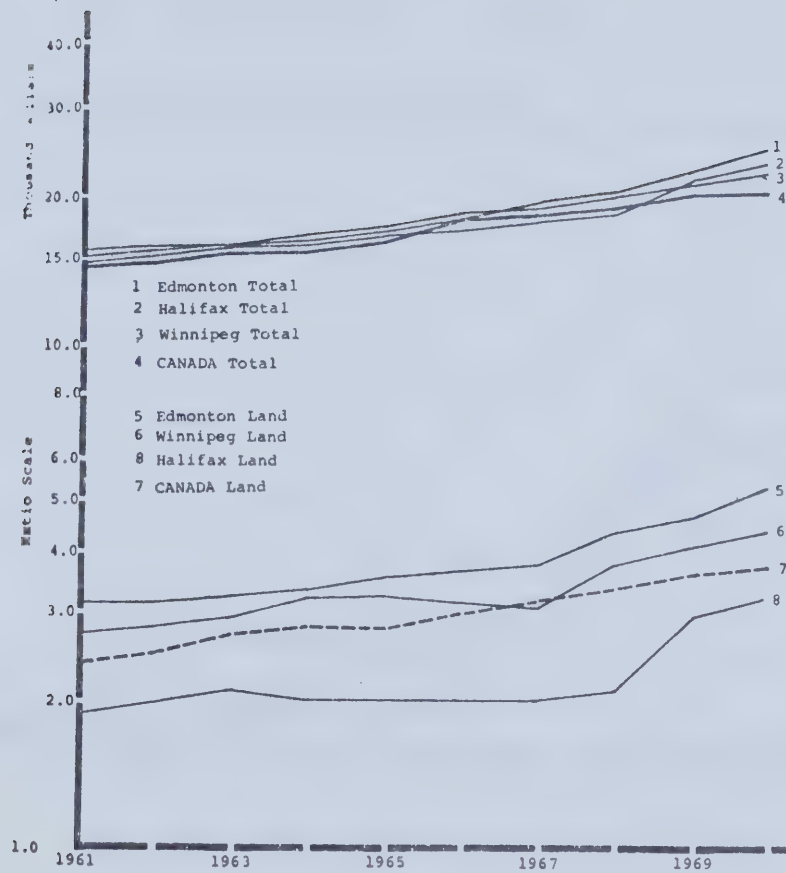
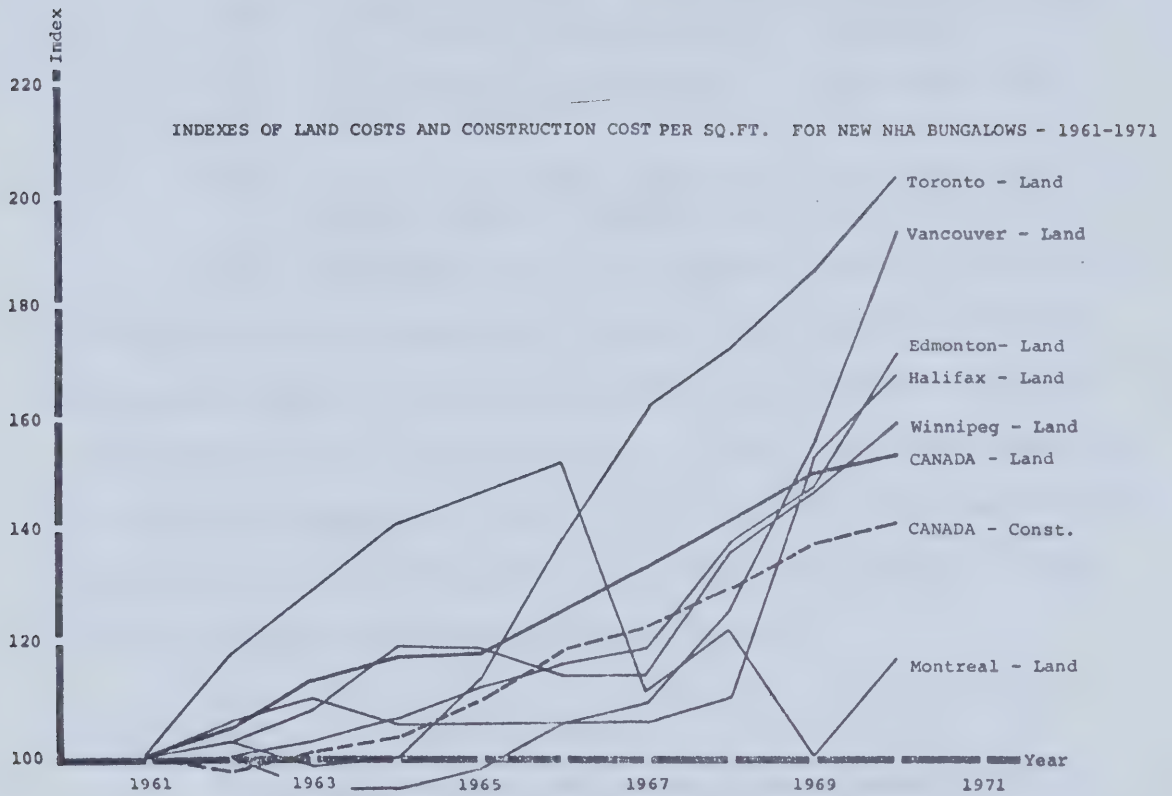


Chart 3



Source: Michael Dennis and Susan Fish, Programs in Search of a Policy, (Toronto: Hakkert, 1972).

Urban Land Banks: Expected Impact on the Problem

The literature on public land banking has identified three potential benefits of such schemes:

- (i) lower land costs and therefore reduced housing costs for all housing consumers;
- (ii) increased effectiveness of municipal planning;
- (iii) a more equitable distribution of the socially created increment in land values.

The interpretation of and emphasis placed upon each of these potential benefits has varied greatly in various government reports dealing with housing problems. In the following pages we shall examine for each potential benefit in turn the manner in which it was treated in the Report of the Task Force on Urban Housing,⁵ the Dennis Report,⁶ and the Mill Woods Development Concept Report.⁷

Cost Control

In view of the Task Force, the arguments in favour of municipal assembly and servicing of land are overwhelming. Members are convinced that, without downgrading the initiative and enterprise of private developers,

⁵Report of the Task Force on Housing and Urban Development, (Ottawa: Queen's Printer, 1969).

⁶Michael Dennis and Susan Fish, op. cit.

⁷Mill Woods Development Concept Report, City Planning Department, City of Edmonton, March 1971.

municipalities can do this job at generally lower cost to the ultimate user.⁸

Although consideration was given to the matters of increased planning effectiveness, the Task Force focused primarily on the realization of scale economics that would be made possible by municipal assembly and servicing of land.

And yet there can be no question that it is more efficient to assemble land and, even more important, to service it in large tracts. A large potential development property divided artificially by ownership creates any number of problems. The owner of one piece may be anxious to proceed with development--only to find that neighbouring property, often the one through which trunk services must pass, is in the hands of a speculator holding out for even larger profits or is caught up in the legal haggling of a contested estate. The result is confusion, ever more government regulation and restriction and ever-rising cost.⁹

The conclusion reached was that

On the basis of all the evidence and impressions before it, the Task Force believes that municipal assembly and servicing of land would produce major reductions in land costs in both the short and long term while encouraging and assisting effective urban planning.¹⁰

In the Mill Woods project provincial authorities emphasized the land cost reduction aspects but recognized the planning implications. B.R. Orysiuk, Executive

⁸ Report of the Task Force on Housing and Urban Development, op.cit. p. 41. (Ottawa: Queen's Printer, 1969), p. 41.

⁹ Ibid.

¹⁰ Ibid.

Director of the Alberta Housing Corporation stated in his foreword to the Mill Woods Development Concept Report:

The emphasis of this proposal was focused at reducing land costs by the acquisition of a large tract of land to be utilized as a land bank thus offering the City the capability of not only controlling land costs in the future, but also employing the most advanced planning techniques in designing a comprehensive development plan conducive to accommodating the entire spectrum of income levels residentially as well as providing for all the requisite service facilities.¹¹

The body of the Mill Woods Report reiterates the importance placed on land costs in the formal agreements.

The agreement between the City of Edmonton and the Alberta Housing Corporation describes the objects of the whole land assembly program to be:

- the maintenance of a continuous and adequate supply of land for housing so that the trend to spiralling costs, particularly for land, may be reversed; and
- the progressive servicing of land in the area to provide public and private housing of good quality at minimum cost.

The supply of land for housing has been identified as the main contributing factor in the escalation of housing costs. The agreement quite plainly recognizes this point and the adequate and continuing supply of land is an essential objective of the City's development program.¹²

The authors of the Report, however, place considerable stress on the usefulness of the Mill Woods Land as a

¹¹Mill Woods Development Concept Report, op. cit. not paged.

¹²Ibid.

tool to achieve civic planning goals as we shall see in the following section.

The suggestion in the Report that future land acquisitions be directly related to the requirements of the City's public works program is in direct conflict with operation of the land banking program to reduce land costs on a long run basis.

It is suggested that the City's policy in future will be by use of the Mill Woods funds, to establish a very specific land acquisition program which will bear a direct relationship to the public works programs of the City. ... The monies realized from the Mill Woods area should be exclusively used in a land bank so that the land sold will result automatically in land being acquired in other parts of the City. ... For example, the acquisition of proper park sites in the older and now disadvantaged parts of the City....¹³

Planning Effectiveness

On the question of increased planning effectiveness as a benefit of municipal land banking the Task Force stated:

There is no question in their (the Task Force's) mind that municipalities can plan the use of land more effectively if they assemble and service it ... How can a private developer or any one else "plan" within the confines of 25 or 50 acres. How can a municipality ensure that its pattern of growth is efficient and logical when basic decisions as to the sequence of land acquisition and servicing rest with private developers, many of whom lack the will, the expertise and the capital to take an overall view of urban development? ...

¹³Ibid.

Some might argue that municipal planners already possess the necessary tools in the myriad of by-laws and other regulations they are able to impose on private developers. But where is the "grand design" in zoning by-laws, subdivision requirements and the like? Instead of positive planning of transportation corridors, public and open spaces, and other broad elements of urbanization, there exists a flood of negative minutia dictating minimum lot sizes, setbacks and other requirements virtually inconsequential from a planning viewpoint. At best present municipal development by-laws can be said to prevent the worst. In point of fact, as often as not they merely inhibit the best. Given control of the land development pattern the Task Force would hope that city planners could turn their sights and efforts to more constructive purposes.... The necessary "grand design" of urban development can be drawn and implemented only by municipalities or even more preferable, as the Task Force urges, by regional governments. And they can implement it only if they control the land.¹⁴

The Dennis Report after examining the position of the Task Force states:

A number of different tools have been developed in other countries to deal with the problems involved in residential land development. Which one is used depends on which issue is focused on--price, equity, or planning effectiveness.¹⁵

They then proceed with a focus on price and equity.

This position contrasts sharply with the stance taken in reports prepared at the local level. For instance, in the report on the Malvern land bank established in the

¹⁴Report of the Task Force on Housing and Urban Development, op. cit., pp. 41-42.

¹⁵Michael Dennis and Susan Fish, op. cit., p. 327.

Metro Toronto area, planning effectiveness (minutely detailed as follows) was said to be the sole objective.

... it is timely to state the objectives established by the agencies which represent the interests of the federal and provincial governments--Central Mortgage and Housing Corporation, and the Ontario Housing Corporation. These objectives are:

- 1) To produce an exemplary piece of civic development such as is made possible by the large single land ownership,
- 2) To achieve a varied pattern of economic land uses in an integrated development combining residential, commercial, institutional, industrial and public uses,
- 3) To develop a balanced community serving as wide an economic range of households as can be accommodated in the area, consistent with the structure of the Borough of Scarborough and of Metropolitan Toronto,
- 4) To plan the community so that it can be served by efficient and economic forms of transportation,
- 5) To minimize the problems of highway and other externally-generated traffic on the community,
- 6) To maximize the advantages of existing topography and vegetation of the site and its environs in planning suitable housing forms interrelated with recreational areas and open spaces.
- 7) To provide, as the focal point of the community, a central core of urban character integrating commercial, civic, residential, educational and recreational facilities within reach of the population concentrations,
- 8) To achieve a plan which provides for logical implementation, and which allows for the establishment of appropriate community facilities as population growth demands,
- 9) To incorporate flexibility in the programme so that changes in the regional structure may be accommodated as development progresses.¹⁶

¹⁶Malvern: Development Plan and Program, Joint Project of the Federal and Provincial Governments, Community Development Consultants Limited, undated.

The Mill Woods Report, while citing the land cost reduction objectives of the municipal-provincial agreement, detailed extensively the implications of land banking for planning effectiveness.

The landholdings in Mill Woods means that the City should be able:

- to guarantee the availability of serviced lots for general housing purposes;
- guarantee sites for specific needs, such as schools, public housing, hospitals, parks, at minimum costs;
- guarantee the most economic form of growth for the City as a whole;
- control land value escalation so that fewer residents will be forced to rely on some form of subsidized housing;
- implement, at lower right-of-way costs, major transportation facility within the City; of orderly and economic growth in the City as a whole.¹⁷

Equity

The Task Force recognized the problem of equitable distribution of socially created increments in land values but offered no evidence on, or resolution of, the issue.

There clearly is a socially-created increment in land value, an increment derived not from the efforts of the land owner, but from the society or community at large. One might argue that, within the context of the surface of a piece of land itself, such socially-created values represent the only increment. Why else should an acre of land in the downtown metropolis be valued at 100 or 1,000 times that of a physically similar acre of land in the undeveloped north? Socially-created increments are very much a part of land

¹⁷Mill Woods Development Concept Report, op. cit., not paged.

values. The issue is who should reap their benefits. The Task Force believes the present system is heavily over-weighted in favour of the speculator.¹⁸

The implementation of a municipal land banking scheme does not eliminate distributional problems since sales of land at prices below prevailing market prices results in a transfer of income from municipal taxpayers in general (the owners of the banked land) to the purchasers of land. The Task Force appears to have felt that sales should be made at competitive prices (i.e. competitive in the sense of covering costs including a normal rate of return on invested funds). Such prices would fall below prevailing market prices by the amount of monopoly profit, if any, being reaped by current land owners and developers. The prescription of the Task Force was:

The Task Force should not attempt to dictate the price at which municipalities should sell such land, but it could have no objection to a practice whereby the local or regional government recovered its actual costs, including those for land reserved for public uses under its development plan, plus some profit. The aim, however, clearly must be to reduce the cost of serviced land to the ultimate consumer....¹⁹

The Dennis Report relates the position of the Housing and Urban Development Association of Canada that high urban land prices result from shortages of supply caused by

¹⁸Report of the Task Force on Housing and Urban Development, op. cit., p. 38.

¹⁹Ibid., p. 43.

the inability of municipalities to service and open up new residential developments. Increased supplies of urban land can be provided by either the public or private sectors.

But Dennis and Fish argue:

Even if supply were to increase and prices drop somewhat, a fundamental issue of equity remains. By supplying funds and either allowing the developers to service the land, or by itself servicing the land, the public is adding value to it. That added value is included in the land price and in the final price of the housing constructed. Why should the advantage of that added value accrue to private interests, who have done nothing more than purchase and hold the land?²⁰

The Mill Woods Report is very imprecise on the matter of equity. After citing sample lot prices and improvement charges for Edmonton, the statement is made that

These figures do not reflect the cost of land, and the City objective in Mill Woods is to reduce these amounts with the primary objective of putting available housing within the reach of far more citizens than is presently the case.²¹

This appears to reflect a desire to wrest the socially created increment in land values from private interests. However, in the next sentence the Report equivocates with the recognition that low land prices in Mill Woods would reduce the incomes of these groups. "However, to translate the City's actual acquisition costs into the

²⁰Michael Dennis and Susan Fish, op. cit., p. 325.

²¹Mill Woods Development Concept Report, op. cit., not paged.

resale value would serve to severely affect other growth areas.²²

This section of the report then concludes with a discussion of a number of other factors which could be taken into account to justify prices in excess of acquisition costs.

The Rate and Nature of Urban Growth

The Task Force and the Dennis Report make no mention of an impact of municipal land banks or land assembly schemes on the rate and nature of urban growth patterns. However, it seems clear that public actions to reduce residential land costs serve to make the affected city relatively more attractive to prospective migrants. The availability of commercial and industrial land at prices lower than would otherwise be the case as well as the availability of a supply of labor, potentially attracted by the low residential land costs, should also serve to make the city relatively more attractive to prospective new industry. How do land prices affect the present Alberta Government policy of attracting industry through preferential energy prices?

The effect which limited land supplies and high land price have on the nature of the urban growth process

²²Ibid.

was recognized in the Mill Woods Report

The adoption of a program will have an effect much broader than within Mill Woods alone. The short supply of land in the suburbs for housing and its high costs has contributed in large measure to the apartment redevelopment phenomenon in the City.²³

Apartment redevelopment is only one of the many factors that may be influenced by Mill Woods. Population movement to the city periphery with consequent demand on transportation corridors, excess capacity in city schools, and expensive water and sewer extensions are others.

The Effect of Land Banks on Urban Land Prices

The basic rationale behind the concept of urban land banking is that residential lot prices are in some way elevated above the amount for which lots could be produced under competitive conditions and that the operations of a land bank by introducing a force operating for the public good in the marketplace can work to reduce this price differential. To properly evaluate the likelihood of this possibility and to determine how the land bank should be operated in order to bring it about requires an understanding of the workings of the urban land market and of the forces behind the recent rapid appreciation in urban land values. Let us first examine the limited data available

²³Ibid.

for prices and land appreciation analysis. Then we shall turn to an analysis of the determinants of the cost of the land conversion process and of the role the urban land bank can play in controlling these costs.

(a) Appreciation in Land Prices

Very little research has been done on the sources of appreciation in land prices in either Canada or the United States. The leading case study done by Sherman J. Maisel in the San Francisco Bay Area.²⁴ He found that the typical single family lot rose in price from \$1300 in 1950 to \$3850 in 1962. (See Table 1) He estimated, based on the original lot size, that 28 per cent of this change was due to increases in the cost and quality of development, 20 per cent to changes in lot size and 52 per cent due to increases in the price of raw land. The raw land value per acre (calculated as a residual) increased 221 per cent from \$3,300 to \$10,600.

As is pointed out by Allen Schmid in a subsequent study²⁵ the average value of all farm land in California increased 165 per cent, from \$154 per acre in 1950 to \$408

²⁴Sherman J. Maisel, "Land Costs for Single Family Housing," in California Housing Studies (Berkeley: Center for Planning and Development Research, University of California, 1963).

²⁵A. Allen Schmid, Converting Land from Rural to Urban Uses (Baltimore: Resources for the Future, 1968).

in 1962.²⁶ Therefore the change in land values is the most important source of increases in lot prices and it cannot be accounted for by changes in the opportunity cost of farm land. Furthermore appreciation from \$468 per acre to \$10,600 per acre amounts to \$10,192 or 2498 per cent.²⁷

Table 1 Typical San Francisco Bay Area Lot Prices, Raw Land Values, and Development Costs, 1950, 1960, and 1962

Year	Size of lot	FHA lot value	Cost to develop	Raw land value	Land value as a per- centage of total lot value	Cost to develop per front foot	Raw land value per acre*
	(sq. ft.)	(dollars)	(dollars)	(dollars)	(per cent)	(dollars)	(dollars)
1950	5,500	1,300	700	600	46	10	3,300
1960	6,500	3,500	1,535	1,965	56	20	9,300
1962	6,500	3,850	1,615	2,235	58	21	10,600

Cause of value change			Per cent
1950-1960	For original lot size		
	\$ 635	in cost and quality of development	29
	\$1,100	in value of raw land (5,500 sq. ft.)	50
	\$ 465	from change in size of lot (includes land cost and development cost)	21
	\$2,200	total change in value (\$3,500-\$1,300)	100
1950-1962	For original lot size		
	\$ 720	in cost and quality of development	28
	\$1,325	in value of raw land	52
	\$ 505	from change in size of lot	20
	\$2,550	total change in value (\$3,850-\$1,300)	100

^a Computed as a residual.

Source: Sherman J. Maisel, "Land Costs for Single-Family Housing," in *California Housing Studies* (Berkeley: Center for Planning and Development Research, University of California, 1963).

²⁶ Farm Real Estate Market Developments, CD-64
(Washington: U.S. Department of Agriculture, August 1963),
p. 37.

²⁷ Using the average value of irrigated orchards, vineyards and groves (\$2,301) as the base, Schmid calculates the appreciation at \$8,290 or 359 per cent.

Schmid also reports on a case study done of a single subdivision of 159 lots in Lisle, Illinois in 1961.²⁸ The detailed cost data developed in this study are displayed in Table 2 below. Illinois average farm land value of \$306 per acre is equivalent to \$116 per lot. This cost plus

Table 2 Land and Development Costs for a Lisle, Illinois Subdivision, 1961

(Average size lot, 12,180 sq. ft.)

Land cost to developer	\$2,000	per acre
Interest, 2 years, 12 per cent	240	
Taxes, 2 years	40	
	\$2,280	per acre
Land cost (2.63 lots/acre)*	\$ 867	per lot
Improvement cost (bare field) \$1,797		
Sanitary sewer	\$ 3.02	/ front ft.
Water main	2.27	/ front ft.
Storm sewer	3.56	/ front ft.
Concrete curb	2.00	/ front ft.
Concrete sidewalk	2.50	/ front ft.
Paving (½ of frontage), 35 ft. total width	6.77	/ front ft.
Other improvement cost \$638		
Engineering and supervision	10	per cent of bare field cost
Interest, 6 months	6	per cent of bare field cost
Repair and replacements	2	per cent of bare field cost
Developer overhead and profit	20	per cent of bare field cost
Total improvements costs	\$2,435	
Selling cost	546	
Total cost	\$3,848	
Sales price	5,460	
Profit	1,612	
(Illinois average farm land value per acre, \$306)	Per lot calculations	
Farm value per lot (2.63 lots per acre)	\$ 116	
Improvement cost	2,435	
Selling cost	546	
Total cost	\$3,097	
Lot sales price	5,460	
Appreciation	2,363	
Percentage appreciation above all costs	76	per cent
Percentage appreciation above farm value	2,037	per cent

* The developer realized only 2.63 lots per acre because of 35-foot streets and extra land taken for a major thoroughfare and state highway right of way.

Source: Percy E. Wagner, *A Critical Analysis of a Developing Subdivision*, presented at the National Convention of the American Institute of Real Estate Appraisers, Miami Beach, Florida, 1961. Illinois average farm land value from U.S. Department of Agriculture, *Farm Real Estate Market Developments* (Washington, CD-64).

²⁸Percy E. Wagner, *A Critical Analysis of a Developing Subdivision*, presented at the National Convention of the American Institute of Real Estate Appraisers, Miami Beach, Florida, 1961.

improvement and selling costs per lot totals \$3097 per lot leaving a \$2363 per lot appreciation after a sale price of \$5460 is realized. This \$2363 gain is the equivalent of a 2037 per cent return on the raw land at agricultural values.

In order for us to visualize better the components of the price of improved land Figure 1 which is drawn from Schmid's work is presented below.²⁹ The data shown does not represent the results of a statistical analysis of experience in the United States or Canada but is rather an attempt to give a rough portrayal of the price components of an average lot.

(b) Determinants of the Appreciation of Land
Values - Efficiency, Rents, Profits

i) Efficiency in land improvements. We have just seen that land improvement costs comprise an important fraction of the price of a finished residential lot. Obviously efficient choice of inputs and organizational practices can have an important bearing on costs.

What possibilities for cost reduction are presented by an urban land bank? First it would seem that assured continuity of operation coupled with a relatively steady rate of lot development should provide some savings for the

²⁹A. Allen Schmid, op. cit.

public operation as opposed to the less favorably situated private developer.

The major savings would appear to be in the area of risk minimization. Although the profits from land development appear to be very high, developers face high risks. Strikes or slow sales coupled with high holding

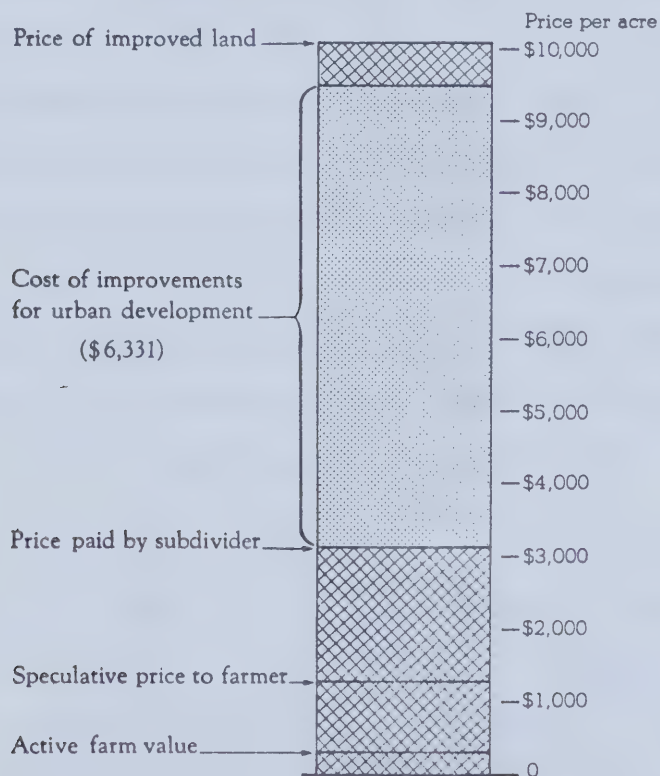


Figure 1. Land-price stages in the conversion process.

SOURCE: A. Allan Schmid, Converting Land From Rural to Urban Uses, (Baltimore: Resources for the Future, 1968).

Data specifically related to Edmonton are contained in Section IV and Appendix III.

costs can bring about a liquidity squeeze. Changes in the direction of growth of the city or unfavorable zoning decisions may sharply reduce resale values. Operators of urban land banks are much better situated to control many of these decisions and therefore to bring about corresponding savings in development costs.

Improved co-operation from the city departments with which all land developers must deal and access to favorable financing arrangements provide scope for cost reduction. Also the existence of any economies in large scale land development would enable an urban land bank to reduce land costs. This would of course hold for large private developers as well but there is perhaps some doubt as to whether they could become quite as large or have the same opportunities to finance really large projects.

ii) Land rent. Let us now turn to an examination of the large increases in the land element of the total residential lot price. The buyer of a residential lot buys not only a "piece of dirt" as it is sometimes desparingly referred to but also a bundle of valuable amenities including locational advantage, landscaping, neighborhood associations, schools, parks and other public services. Some of these are subject to natural limitations in supply; others to supply limitations imposed by man.

Supply limitations of either type will result in returns to factors of production which are in excess of their cost of production under competitive conditions. Such excess returns are properly termed "economic rents." We shall confine our discussion in this section to that portion of the excess return which results from natural limitations in supply. In the following section under the heading "monopoly profits" we shall discuss the portion of the excess returns due to non-natural limitations (such as monopolistic restriction of production).

The most all-pervading natural limitation on the supply of residential lots is locational advantage. Many studies have considered the relationship between urban lot values and distance from the central business district.³⁰ Such studies are based on Ricardian rent theory which holds that users of close-in locations save on transportation costs and that these savings become capitalized in the value of land. This leads to the prediction that, in a static situation, land on the fringe of the city should be valued in terms of its agricultural opportunities whereas as one moves closer to the central business district transportation

³⁰ Richard F. Muth, "Economic Change and Rural-Urban Land Conversions," Econometrica, January 1961, pp. 1-23; and Paul F. Wendt and William Goldner, "Land Values and Dynamics of Residential Location," in Essays in Urban Land Economics (Los Angeles: University of California, Real Estate Research Program, 1966), pp. 188-213.

savings and hence land values should continuously increase. This situation is depicted by line AB in Figure 2.

In a dynamic situation, land beyond the present fringe of the city is expected to be developed in the future. Therefore in the future the present fringe site will offer transportation savings. The current value of this site is therefore equal to the agricultural opportunity cost plus the discounted present value of this stream of future transportation cost savings. Line CD in Figure 2 illustrates a land value gradient which takes these future opportunities into account. The no rent margin has moved beyond sites on the fringe of the city (B) to some point (D) in the country. The price of sites on the fringe of the city, at (B), now include an element of economic rent. Expectations of future rents support a future capital value which has been discounted to the present.

Urban land bank operations can potentially influence both the size and distribution of these economic rent elements. Let us first focus our attention on their impact on the size of economic rents. These rents arise from natural scarcity of favorable location.³¹ Purchase and sale of land by a public authority cannot alter the basic

³¹We have discussed this in terms of transportation cost savings but the analysis applies also to scarcity arising from a favorable view, low rainfall, low pollution or high class neighbors.

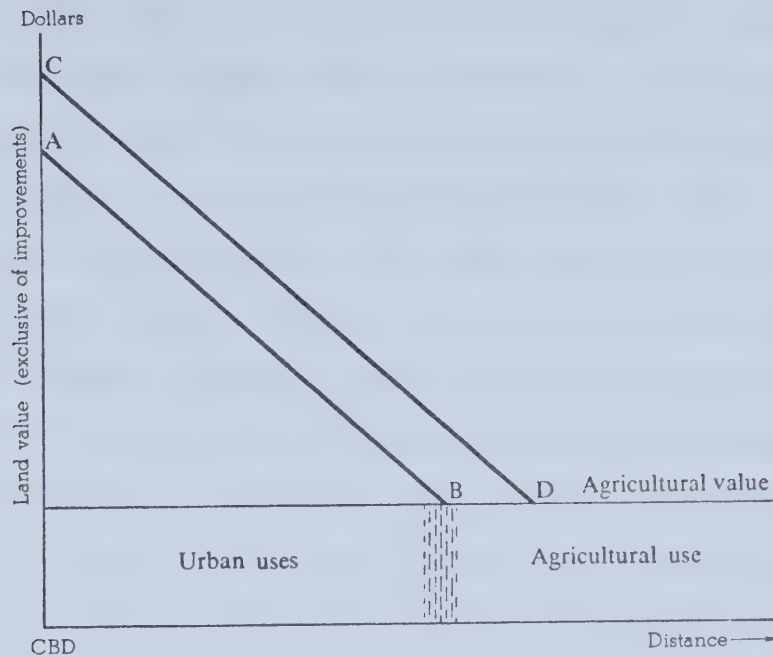


Figure 2. Hypothetical land value—distance relationship.

scarcity of sites with favorable location. Land bank operations can through changes in the form and direction of city growth increase the relative desirability of land bank properties. This would decrease the level of economic rent on private sites but at the same time would involve an increase in economic rent on land bank sites. This is basically a redistribution and not a reduction of economic rents. If the economic rent on the city fringe is to be reduced policies must be undertaken which reduce the scarcity of favorable sites. These could include improvements in urban transportation, the establishment of satellite cities, or

even the establishment of large suburban shopping centres. An urban land bank may be used to implement a land policy including such elements as these but an urban land bank has no direct impact on the scarcity of favorable sites.

As we have indicated land bank operations can redistribute economic rents. Changes in city growth patterns can reduce economic rents of and prices paid to private land-owners while increasing the economic rents of and hence the subsidies accruing to land bank properties. Single tax advocates since Henry George have argued that since economic land rents occur as a direct result of the general progress of society that they should properly be reaped by society in general. An urban land bank makes possible such a redistribution of economic rents. While sales of land from the land bank are being made at the urban fringe the land bank must continually replenish the land bank by purchases of land at zero rent locations, denoted by point D in Figure 2. When urban growth creates a capital value for this land in excess of its agricultural value this increment will be received by the owners of the urban land bank.

Redistribution of economic rents involves changes in the incomes of private land-owners, city tax-payers (as owners of the land bank), and land purchasers. These redistributions of income will be considered in more detail in a subsequent section.

iii) Monopoly profits. We have argued that a land bank is of limited usefulness in eliminating natural limitations on the supply of urban land. In what ways can a land bank serve to reduce man-made limitations on the supply of residential lots and thereby reduce the monopoly profit element in the price of such properties? These man-made restrictions can arise in either the public sector or the private sector. The public sector will be considered first.

a) Public Sector Supply Restrictions

Land developers feel that public sector supply restrictions is an important cause of high residential lot prices. The Urban Development Institute of Ontario in a 1972 brief to the Ontario government states:

This brief will present and document the view that the rate of escalation of prices of new houses in Toronto over the past decade is primarily the product of restrictions on the supply of building lots by governmental controls. These controls are operated for many reasons of varying validity, but apparently without much regard for their aggregate effect on housing. It is not our intention to criticize these controls and their criteria; only the absence of housing supply among these criteria.³²

The brief discusses a number of ways in which government actions work to hold land off the market.

³²A. Derkowski, Residential Land Development in Ontario, Submission to the Ontario Government, November 1972 (Toronto: Urban Development Institute of Ontario) p. 3.

Zoning in response to fiscal consideration such as the need to maximize property tax revenues and to reduce the demand for public services may lead to all available sites being large in size and hence few in number. Arrangements which lead to a slow rate of extension of sewer and water services restrict lot supply. A desire for orderly development along a certain growth path serves to exclude sites not located on this growth path from the choice set. Finally the existence of a long, detailed decision process in the areas of zoning and subdivision approval slows the creation of new lots.

Clearly the creation of an urban land bank is not a direct policy response to this broad range of issues. However recognition of the interdependence of government policies in these various areas can help prevent the adoption of policies in one area that contradict or work against the policies in another area.

A variety of lot sizes should be made available and land bank subdivision should not be based on fiscal considerations. The implications which the rate of servicing and growth in land bank areas has for land prices should be clearly recognized and investigated.

If the land bank is to have its hoped-for impact on residential lot prices appropriate action must be taken on these related policy issues. Otherwise the beneficial

effects of land bank operations on lot supply and prices may be counteracted by public sector supply restrictions in other areas.

b) Private Sector Supply Restrictions

If a small number of firms control a large percentage of developable land in a given urban area then these firms will possess market power. Market power results from a recognition by the firms of their interdependence in the marketplace. Each recognizes that profits for all firms as a group and for individual firms will be greater if lot prices are elevated to the level at which a profit-maximizing monopolist would set them. In order to elevate price in this manner the number of lots supplied on the market must be restricted below the number which would be forthcoming under competitive conditions.

The creation of an urban land bank is the equivalent of the entry of a new seller to the industry. The influence which this new seller has on the market price depends not only on the policies which it adopts but also on the reactions of rival firms. The reactions of a small number of individuals cannot be predicted with certainty but the leading possibilities can be explored.

First consider the case where the land bank initiates a high volume low price strategy. If the land bank has only limited holdings of land competing firms may

merely opt to hold their land off the market until the influence of the land bank is spent. This would limit sharply the influence of land bank sales on lot prices. On the other hand large land bank holdings of favorably situated land or a policy of continual land purchases would ensure continued land bank influence over a long time period. Private sellers would have to adjust to the new market situation -- with continued private developer sales plus added land bank offerings -- would be one of increased supply and lower prices.

On the other hand it is entirely possible for the land bank to adopt a low volume high price strategy. In effect the operators of the land bank could join other sellers and attempt to maximize the returns from their land investment. Private developers might react to this strategy by maintaining their sales volume. The incremental supply created by the land bank entrant would tend to slightly lower the market price. It seems more likely that the adoption of such a "friendly" strategy would lead to private developers moving over to make room for the new entrant by way of implementing the restrictions in their own sales volume necessary to maintain the market price of lots at the monopoly level. Increased sales volume by private developers would be extremely unlikely.

What if the sellers of land in the city in question lack market power, i.e. the market is not dominated by either one or a few private sellers. Are there forces operating in such a market that create a monopoly-like private supply restriction? A. Allen Schmid has argued that in this situation:

...there is no *a priori* reason that the reservation or asking price set by sellers should not be found to exceed the present value of actual future values, and no reason that this price should not persist over considerable time, even if there is no overt collusion and no domination by a few large sellers.³³

His result follows from the assumption that there is a lack of competition among owners of small holdings to sell at an early date. As sellers seek to establish market prices they set a certain price in a given year and see what rate of sale they obtain. The reservation price set is the present value of the price expected at some date in the future.

In the case of the usual storable commodity if reservation prices and future expectations are too high the arrival of a new crop forces them down. In the case of land of a given quality it is possible for all sellers to realize their reservation prices before the actual price of the existing stock in the future is known. Reservation

³³A. Allan Schmid, op. cit., p. 39.

prices which are based on unrealistically high future expectations can only be reduced by an alteration in expectations resulting from competition amongst sellers. If a few sellers realize prices are too high they are able to undercut the existing reservation price and sell out at an early date. But land is not a reproducible commodity. These sellers are no longer a factor in the market and the general level of reservation prices may be unshaken. Only if many owners attempt to sell early will seller's confidence be shaken and the market price level reduced.

An urban land bank operating as a very visible price leader in such a market can have a great effect on residential lot prices. Prices set by the land bank can perform an important function in reducing the level of future expectations and reservation prices, particularly if the land bank enjoys considerable political support and publicity.

Effects on Land Banks on Resource Allocation

As has been discussed above land banks have been proposed as a policy response to the failure of the workings of the urban land market. The most important manifestation of failure in the workings of this market is the "high" level of residential lot prices discussed above.

To state that lot prices are "high" one must have some concept of what a "normal" or acceptable level of lot

prices would be. In a market economy the cost of production (including a normal rate of profit to the developer) of a lot under competitive conditions provides such a bench-mark. The divergence of lot prices from this level serves to distort decisions that are made in the markets for both the consumption and production of housing. Let us first consider consumption.

i) Choice Between Residential Lots and Other Goods and Services

If we are to use competitive prices as our bench-mark we must consider the situation where markets for goods and services other than residential lots are characterized by competitive conditions. If in this situation residential lots are priced above their cost of production (including normal profits) distortions in the purchasing patterns of consumers will result which will lessen the welfare of consumers as a whole.

So long as consumers allocate their budgets so as to equalize the satisfaction per dollar to be gained from each good an undue elevation in the price of any one good will cause this corresponding undue reduction in the quantity of that good purchased.

To see why a distortion in consumers buying patterns causes a reduction in the welfare of consumers as a whole let us consider Figure 3.

Price of
Residential
Lots

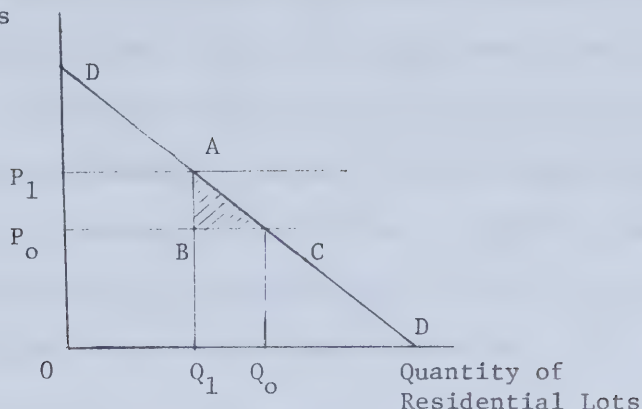


Figure 3

P_0 represents the cost of production (including a normal rate of return) of a residential lot. If actual market prices of residential lots are at some higher level, shown as P_1 , then certain buyers are priced out of the market. These buyers would have purchased Q_1Q_0 quantity of lots. Clearly their buying patterns have been distorted since each would have been willing to pay more than the cost of production of a lot (OP_0) but because of the undue elevation of the market price of lots were prevented from purchasing. Under competitive conditions the welfare of each would have been increased by the difference between the amount he would have been willing to pay and the competitive price. The aggregate amount of welfare lost by consumers because of the undue elevation of the market price is shown by the shaded triangle ABC.

Operations of a land bank which tended to reduce prices toward the level OP_0 would eliminate the distortions in consumer's spending patterns and make possible an increase in consumer welfare in the amount represented by triangle AEC in Figure 3.³⁴ Consumers would be able to expand their purchases of residential lots and to increase the size of those lots which they purchase.

ii) Choice Between Land and Buildings

A change in the price of the land input in the production function will influence the input proportions in construction and will have related consequences for building design and land use. The greater the impact of the land bank on land prices the greater will be the extent of these changes. They will be felt at once in new construction projects and over the long term in the replacement of older properties. Although complete adjustment of all properties to the land price pressures resulting from the operation of the land bank would take many years we shall in the following attempt to discern what the nature of the total impact on resource allocation will be.

³⁴ If we assume a straight line demand curve the amount of this gain can be estimated in the following way. Define the relative price distortion $t = \frac{\Delta P}{P}$ and denote the elasticity of demand as y . Welfare gain $\frac{\Delta P}{P}$ is equal to $[1/2 (\text{total value of lots sold}) \cdot y \cdot t^2]$

In this section we shall not be concerned with the aggregate demand for land and buildings or its determinants but rather on the manner in which the total sum allocated to construction is divided between land value and structures.

First let us consider an individual builder and examine the choice process in deciding between land and building inputs to a contemplated construction project to serve a given need under a budget constraint.

The choice process is best analysed using indifference curves. Each indifference curve is a schedule of equally desirable but systematically varied assortments of the two classes of inputs. As Manuel Gottlieb has pointed out site and building are in both a complementary and competitive relationship.

They are complementary in that structures require a minimum of site to provide sturdy foundations, street access and utilities even for a sequence of rooms rising in vertical rather than horizontal succession or perched on the higher floors of a building. They are competitive in that building and site appeal to different needs and interests.

Besides structural foundations and street access, site also provides distance from neighbors; a small world of green space arranged to one's taste; a private playground for children and romping ground for household pets; and a piece of family earth. Building, in turn provides daily living privacies for family inmates; a world of private illusion created by furnishings and decoration; smooth engineering to facilitate household operations of feeding, nurture and cleaning and to a comfortable, pleasant, noise free, temperature controlled environment;

plus guest rooms, recreational areas and storage facilities.³⁵

The essence of the allocation question is that neither act of aspirations nor needs can possibly be completely satisfied if the builder is operating subject to a budget constraint. The budget constraint fixes the sum to be expended on construction and this sum must be allocated between expenditures on land and expenditures on buildings.

As we have mentioned above we shall not in this section concern ourselves with the determinants of this sum. Briefly however one can see that in a city in a stationary state, with fixed level of demand for exports and constant real income consumers would only allocate funds to construction to provide for replacement properties. To the extent that demand for exports and real incomes rose increased allocations of funds to construction would be made.

Our analysis in Figure 2 shows indifference curves that are characterized by continuous substitution between land inputs and building inputs. It is true that in built up parts of the city choice of lot site and land value is constrained to those already vacant or which can readily

³⁵Manuel Gottlieb, "Site Value Taxation and Urban Renewal: Part II," Assessors Journal, Chicago, Illinois, International Association of Assessing Officers, October, 1969, p. 54.

be cleared. However, in the suburbs land developers in attempting to satisfy the varied tastes of the public (subject of course to zoning constraints) will make available a wide variety of lots. Extremely small sites per dwelling can be attained through town-house and apartment construction. Therefore both because of variety in lot size and in type of construction the assumption of continuous substitution appears to be justified.

The value of a lot is a bundle made up of location, natural features, amenities, shape and access. Similarly buildings involve quality decoration and other features beyond floor space. To consider trade-offs each of these bundles must be denominated in terms of dollars as has been shown in Figure 4.

Figure 4 illustrates the trade-off between land and building inputs where continuous substitution is possible between these inputs and the indifference curves approach limiting values in either direction defining minimum quantity of either input necessary for construction. Equilibrium for the builder is provided by the point of tangency of his budget constraint XZ with the highest level of indifference curve he is able to attain I_1 .

Operations of the land bank which serve to reduce land prices will have two effects. They will make land cheaper relative to buildings and they will increase the

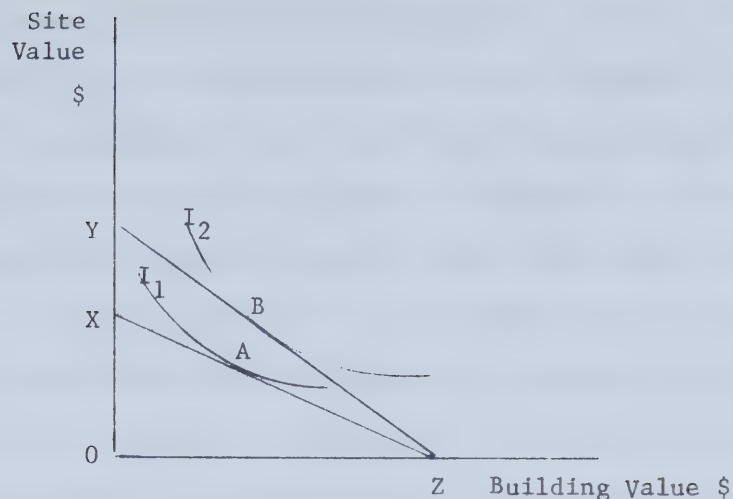


Figure 4

real purchasing power of builders. The second effect is seen when we observe that for an expenditure of OX dollars builders would now be able to purchase OY dollars worth of land (if it were valued at the pre-subsidization prices). This increase in real income enables builders to buy more of both land and buildings. The lower price of land relative to buildings however causes builders to substitute the cheaper input "land" for the relatively more expensive one "buildings." Thus at point B , the new equilibrium builders will buy more land than they did in the absence of the land bank since both the income and substitution effects work in the same direction. They may buy more, the same amount, or less buildings depending on whether the income effect is greater than, equal to, or less than, respectively the substitution effect away from buildings.

Unless demand for local exports and real income levels fall there is an increase in the incomes of purchasers of subsidized lots, with the increases prorated in proportion to the subsidization received. A decline in the demand for local exports would cause land prices to fall and construction to be curtailed but in the absence of such a decline building will proceed in a more land intensive fashion tending to lower population densities. It is through adjustments in the intensity of land use -- either by using a more costly site for a given building or decreasing the value of building on a given site -- that purchasers of the subsidized lots are able to reduce their rate of return on the subsidized lots to the level of rates of return available on alternative investment opportunities. The subsidies remain with the purchasers of the subsidized lots and are not shifted to other economic agents so long as the building industry is characterized by competitive conditions.

This tendency of land bank operation to change building design, land use pattern and lot layout would be expressed in a number of ways. Whether or not each of these will cause a change towards or further away from an "ideal" state will depend on whether or not the price of lots set by the land bank is closer to the true cost of production of a lot under competitive conditions than is

the price set in the market place in the absence of the land bank.

The lower land bank lot prices would tend to increase the use of larger and more valuable lots and private gardens. It would tend to shift housing patterns away from multi-family units such as town-houses, duplexes, and apartments and toward single family dwellings. Buildings can be expected to be more cheaply constructed and less durable.

If existing market prices are competitively determined than they reflect the inherent locational and amenity values of the site. If sellers of land are able to exercise market power, market prices will reflect in addition an element of monopoly profit. However, regardless of the degree of market power on the seller's side of the market sales by the land bank at prices below existing market prices results in a transfer of income from property taxpayers in general (the owners of the land) to the purchasers of the lots in question. This transfer of income is in effect a negative property tax. For example if a lot in the land bank could be sold for \$8000 under existing market conditions but is actually sold by the land bank for \$6000, in effect a property tax rebate of \$2000 has been granted

the purchaser.³⁶ If the differential between market price and the land bank's price can be expressed as a percentage of the market price then the differential is in effect a negative site value tax. Table 3 provides an example.

Thus, at a time when many authorities are calling for increased emphasis on the taxation of urban site values as opposed to building, and at a time when the City of Edmonton has just completed a municipal reassessment designed to increase relating taxation of urban land, the marketing of land in a land bank at subsidized prices serves to reduce the relative taxation of urban land.

The Effects of Land Banks on Income Restribution

Sale of lots from a land bank at prices below existing market prices increases the incomes of some citizens and reduces the incomes of others. We must first attempt to determine whose incomes will be increased and whose incomes will be decreased.

Clearly the incomes of those who purchase subsidized properties from the land bank are increased. But if the operations of the land bank are successful in their goal of driving down land prices in general the beneficiaries of the program will also include those who purchase land from private

³⁶To complete the parallel the \$2000 rebate in the example can be equated at a ten percent rate of discount to a perpetual stream of property tax rebates of \$200 per year.

TABLE 3

EXAMPLE OF INCOME REDISTRIBUTION RESULTING
FROM SALE OF LOTS BY LAND BANK AT
PRICES BELOW MARKET VALUE

	Land Bank	Land Developers	Total
Market Value of Land Sold (if sold at market price)	\$8,000	\$16,000	
Actual Sale Proceeds (if sold at subsidized prices)	\$6,000	\$12,000	
Subsidization	<u>\$2,000</u>	<u>\$ 4,000</u>	<u>\$6,000</u>

City Taxpayers:

Commercial and Industrial

$$\frac{\text{Commercial and Industrial Property Tax Levies} \times \$2000}{\text{Total City Property Tax Levies}} = \text{say } \$ 500$$

Residential

$$\frac{\text{Residential Property Tax Levies}}{\text{Total City Property Tax Levies}} \times \$2000 = \text{say } \$1,500$$

Land Developers

\$4,000
\$6,000

developers at prices lower than otherwise would have been the case. A "trickling down" or "filtering" effect should also be present. Those who purchase lots for residential purposes at the new depressed "subsidized" prices will vacate properties which can be taken up by others. The latter since they have freely chosen to make the move demonstrate that they have benefited from it. An examination of the income and demographic characteristics of both the first and later round beneficiaries should provide a clear description of exactly who it is that benefits from the income transfers inherent in public agency sales of land at prices below market.

Consideration should also be given to the manner in which the subsidization benefits are distributed amongst these purchasers.

If purchased directly from the land bank the cost of subsidization is borne by civic taxpayers in general in proportion to the assessed values of their holdings of land and improvements. Presumably, commercial interests will not be offered subsidized land. Accordingly commercial and industrial property owners will suffer an income loss equal to that fraction which the total property tax levies on their property is of total property tax levies times the total amount of price subsidization incurred in land bank sales.

Within the residential sector matters are slightly more complicated since it is residential land users who are both gaining and losing. For existing residential property owners a calculation similar to that outlined above can be performed to calculate the dollars total of income loss suffered. The income and demographic characteristics of residential property owners in general should be considered in a comparison with the corresponding data for beneficiaries (property purchasers) to clarify the nature of the income transfer within the residential sector.

As for the income loss of private developers this is best measured by the difference between actual sales proceeds of developers and the aggregate proceeds that would have been realized from such land in the absence of the land banking program. Investigation of the ownership and locational characteristics of unimproved vacant land held by private owners may prove worthwhile in order to establish the demographic characteristics and relative importance of vacant lot owners other than large development corporations.

The Effect of Land Banks on Urban Planning

Although it is difficult to quantify or measure such matters it seems evident that planning can be more effective when carried out on a large scale within the confines of an urban land bank where the powers of the planner can be

reinforced by the powers of land ownership. Full realization of the potential of developing areas can not be attained using negative zoning strictures. Planning on an area-wide basis is a requisite. Public land ownership can ensure the implementation of the plans arrived at.

Also public ownership of developing land provides an answer to the externalities problem. This problem usually arises in an urban context when developments or lack thereof on a certain property can create benefits for owners of other properties which can not be priced in the market place. For instance if the owner of land alongside a stream were to leave the land undeveloped surrounding properties would reap large amenity benefits. However, when land ownership is divided the owner of the stream properties has no way of charging these surrounding properties for the amenity benefits conferred. He may well choose to destroy these benefits by developing the land adjoining the stream for residential or other uses.

A similar situation occurs when low density development of a number of parcels makes feasible development of a parcels as sites for commercial or high density dwellings. Under divided land ownership the benefits conferred by the large number of low density units are conferred as a wind-fall on the owner of this "lucky" parcel developed for high intensity use.

Where an urban land bank is in operation the external benefits created by developments in one sector can be captured by the land bank when it sells land for high intensity uses. Thus market forces will lead to more efficient and equitable land planning.

Conclusion

Urban land banks can provide part of the answer to rising urban land prices. The primary impact should come through more efficient servicing of land and through the demonstration effect of large additions to the supply of residential lots at low prices.

Lower land prices should lead to increased access to the housing market especially for lower income groups. Lower prices should likewise lead to improved resource allocation in the economy chiefly by way of less intensive use of land.

Urban land banks can improve urban planning by making possible planning on a larger scale and providing increased powers of implementation.

The benefits of lower land prices are achieved at the cost of certain types of income redistribution which may or may not be desirable. The chief beneficiaries - purchasers of land at subsidized prices - benefit at the expense of present land-holders and at the expense of the equity owners of the land bank in question. The latter will in many cases be city taxpayers in general.

SECTION III

RESEARCH PROGRAM

The principal policy objective of the Mill Woods land bank has been the reduction of the price of residential lots in the Edmonton sub-region.

The equitable distribution of benefits from the project is a secondary objective.

Clearly the first order of business must be an examination of the trend in residential lot prices in the Edmonton sub-region from say 1960 forward (Project 1).¹ While obviously oversimplified since the effect of all other changes is not considered such an examination has merit in that it focuses on the variable with which policy makers were initially concerned. Continuous monitoring of the impact of the Mill Woods land bank on residential lot prices requires a continuing examination of the trends in the level and rate of increase of these prices for the years 1972 forward.²

¹Detailed specifications of each of the research projects appear in Appendix I.

²Comparison to other relevant indices such as the consumer price index, construction cost index, etc. should also be carried out (cf. Section II).

Next, at five year intervals the components of the cost of residential lots should be factored out. These cost elements should include changes in lot size, improvement cost, agricultural opportunity value of land, and a residual element of scarcity rents. (Project 2) This will identify clearly the components of land costs which have increased most rapidly. Such an identification will serve not only to delimit the potential contribution of the Mill Woods land bank, but also to highlight the need for supplementary policy changes in related areas.

Evaluation of the cost control performance of the Mill Woods land bank requires an additional step in the analysis. The detailed make-up of the costs of Mill Woods lots should be compared to the cost make-up of lots offered by private developers.

Having delimited the magnitude of the elements potentially subject to the influence of land bank operations, the actual cost control contribution in each area should be investigated as follows:

Lot Size

Lot sizes in Mill Woods should be compared to current data from other areas in the Edmonton sub-region and to the historical data. Clearly reduction in lot size is one method of reducing residential lot prices and this analysis will indicate

the extent to which this method is being pursued. These matters can be considered in the course of Project 2.

Improvement Costs

These costs are an important element of total residential lot cost. Realized costs of public provision of improvement should be compared to private sector development costs. (Project 3) This will identify the savings (or otherwise) on improvement costs generated by operation of the Mill Woods land bank.

Agricultural Opportunity Value

No further analysis required since land bank operations offer no scope for reducing the value of land in alternative uses.

Scarcity Rents

In the factor analysis under discussion, scarcity rents is a residual category, i.e. it is the residual remaining after all elements of real cost (land area at agricultural opportunity values and cost improvements) have been subtracted from the prices actually realized for residential lots. Careful investigation of the nature and magnitude of these scarcity rents is essential for two

reasons. Preliminary work done by Schmid on American data indicate that scarcity rents involve large dollar amounts per residential lot. Secondly, land banking is potentially a powerful weapon for the elimination or redistribution of these scarcity rents.

It must be realized that the restrictions on land supply that cause scarcity rents to arise have three distinct sources - public sector supply restrictions, private sector supply restrictions, and natural scarcity. Distinctly different mechanisms are operative in each case and therefore distinctly different investigative techniques are called for in each case.

In the case of public sector supply restrictions, we propose an examination of the interrelationships between the public sector and the private developer focussing in particular on a measurement of the importance of fiscal zoning, unduly slow or restrictive development controls, and restrictive servicing policies. (Project 4) Land banking is of course a separate policy instrument and cannot directly influence policy in the above areas. However, adequate investigation of these matters must be undertaken if an evaluation is to be made of the

extent to which the benefits hoped-for from the land bank operation are being eroded by offsetting, inappropriate policies in other areas. In addition such analysis will of course highlight the nature of supportive complementary policy changes required to reduce public sector restriction on the supply of land.

In the case of private sector supply restrictions we propose a complete and comprehensive investigation of the workings of the private sector land market in the Edmonton sub-region. (Project 5) Such a study will identify the buyers and sellers of land, measure the market power of sellers, investigate the interrelationships between sellers and evaluate the economic performance of the private land market. Examination of the factors affecting landholders' ability to withhold supply will enable us to have a better understanding of the nature of the impact of the Mill Woods land bank on the ability to withhold supply and will indicate methods of sharpening this impact. Development of an appropriate marketing strategy for the Mill Woods land bank - in terms of both prices and numbers of lots - is impossible without a sound understanding of the private market context in which the land bank is operating.

To evaluate the relative importance of various elements of natural scarcity of urban land for residential

purposes, we propose that data on these elements (distance from city centre, natural amenities, conflicting uses) be gathered for a systematic sample of properties and that the relative importance of the various factors be estimated using multiple regression analysis. (Project 6) Such an analysis will reveal the value buyers place on various public services such as parks or transportation improvements. It will provide a measurement of the relative importance of the various factors responsible for the development of the satellite towns surrounding Edmonton. Also it may well indicate a need for changes in the level at which certain services are provided.

Finally the question of equitable distribution of benefits from the Mill Woods project must be considered. The free market price (i.e. in the absence of the land bank) of Mill Woods lots relative to the price of lots in other areas of the Edmonton sub-region can be estimated using the results of the regression analysis of Project 7 above. Estimates of the extent to which land values in general were reduced as a result of land bank operations will be based on projections developed on the basis of the data gathered in Project 1 and Project 8. Differences between free market prices and prices actually charged, cause redistributions of income towards subsidized lot-buyers and away from general taxpayers. The socio-economic characteristics of these two groups and the total nature of the

subsidy involved should be examined (Project 7). In addition the socio-economic characteristics of other persons who benefit from purchasing houses handed down by those moving to Mill Woods should be investigated. This work will identify the extent to which lower income persons are given increased access to the housing market as a result of land bank operations, the income effect on land sellers and the effect on persons buying the houses sold by those moving to Mill Woods.

Project 8 outlines the data requirements and analysis required to provide a continuing monitoring of the Edmonton land market and the impact of Mill Woods thereon.

SECTION IV

DATA AVAILABILITY, CONCLUSIONS POSSIBLE AND DATA REQUIREMENTS

We discuss in this section some of the data presently available from different sources, the conclusions that existing data permit and the type of data that would be required in order to answer some apparent questions. We attempt to spell out those questions that ought to be answered, paying particular attention to land values, as well as the improvements needed in present data sources to provide such answers. Our critique of some of the presently published statistics is not mean to detract from the contribution made by making them available despite possible limitations.

Conclusions with Respect to Housing Costs

It is characteristic of the entire area of housing that detailed and precise information is generally lacking. Available statistics are too crude to permit much more than rudimentary types of analysis. They serve more as general indicators than as a basis for analytical research. General policy evaluation will continue to be difficult as long as this situation persists.

A. Housing Costs Generally

Leaving aside the question of what constitutes a housing problem, and whether Canada has one, there is considerable evidence regarding cost increases in the area of housing during the past decade, for instance, in the Dennis Report.¹ The available data do not permit definitive conclusions in all instances, and it is generally not possible to trace the influence that different causes may have had on the cost of housing. Nor is it possible to establish all the effects. However, it is possible to determine that fairly large price increases have taken place and to identify some contributing factors and also to assess whether their effect is significant.² The data supporting this view are discussed below.

The "shelter" and "housing" components of the consumer price index increased 53.5 and 39.8 points respectively from 1961 to 1971 compared with 36.3 for the index itself.³ The shelter component thus increased one and a

¹Michael Dennis and Susan Fish, op. cit.

²The term inflation in the Dennis and Fish report appears to be synonymous with price increases. It should be recognized that inflation refers to a rise in the general price level that is not matched by a corresponding increase in the quality of service. Inflation in the housing sector can be said to have occurred during the decade of the sixties if the housing of 1960 at 1960 prices was determined to be preferable to the housing of 1970 at 1970 prices given unchanging preferences.

³Michael Dennis and Susan Fish, op. cit., Table 1, p. 75.

half times as much as the CPI.

An index of gross debt service for new NHA single detached dwellings increased from 100 in 1961 to 224.9 in 1970. The increases were particularly rapid after 1967. The index increased over fifty points between 1967 and 1968 alone and by over twenty points in the next two years.⁴ Applying the banking industry guideline that not more than 27 percent of gross monthly income should be used for residential mortgage and tax payments gives an increase in the minimum monthly income required for the purchase of a new single detached NHA dwelling from about \$390 to about \$875, or from \$4,675 to \$10,500 per year.⁵

The index of residential construction in the national accounts increased from 100 in 1961 to 150.2 in 1971. The composite index of productive factors in residential

⁴This would be generally representative for the national market for new houses, even if NHA dwellings only constitute approximately one third. It would be indicative regarding the national market for all houses, but may not portray the situation in specific regions. In Toronto, for instance, only a small portion of detached houses appear to be NHA financed.

⁵A detailed analysis of the income required in the Toronto area in 1961 and 1971 is provided by A. Derkowski, op. cit., p. 11. To purchase an NHA single detached dwelling is reported to require an annual income of \$11,623, excluding some 89 percent of income earners. (The income needed is still higher for non-NHA dwellings.) Derkowski's diagram is very useful in summarizing the situation in a convenient way. However, it would be interesting to compare his estimates with a survey of households who actually purchased homes.

construction similarly increased from 100 in 1961 to 184 in 1971.⁶

Total costs of new NHA bungalows for selected cities and Canada as a whole are also given by Dennis and Fish. The national average changed from \$14,500 in 1961 to \$20,100 in 1970 whereas Toronto and Vancouver increased from \$17,400 to \$30,000 and \$16,600 to \$25,200 between 1961 and 1970.⁷

Other studies present a largely similar picture. Derkowski gives a comparison of new house prices in major Canadian cities in 1961 and 1971 based upon C.M.H.C. statistics.⁸ Significant increases are evident in all these cities with the possible exception of Montreal and Quebec. However, there is some reason to believe that C.M.H.C. statistics would tend to underestimate the actual increase in certain cities. In Toronto only a small portion of total sales were NHA financed in 1971 as a result of the \$25,000 mortgage limit.⁹ A survey of house prices in the development fringe of Toronto showed average prices of new detached houses to be almost \$10,000 more than the C.M.H.C.

⁶Michael Dennis and Susan Fish, op. cit., Tables 3 and 5, p. 76.

⁷Ibid., Table 6, p. 79.

⁸A. Derkowski, op. cit.

⁹Ibid., p. 5.

¹⁰Ibid., p. 6.

statistic for 1971.¹⁰

Statistics are not yet available for the changes between 1972 and 1973, but available evidence suggests that this period has exhibited particularly drastic increases. The Real Estate Index on the Toronto Stock Exchange rose some 17 percent in the first three months of 1973 indicating investor belief in continued gains in real estate.¹¹ Reports in the press and private discussions with real estate agents also support this view. For instance a survey by the Canadian Real Estate Association showed a 9 percent increase during the first three months in the average sale price of properties sold through the Multiple Listing Service.¹²

It is indicative also that the latest issue of Time Magazine devoted a spread to the "Wild, Wild Market for Housing," even if journalistic quotes of statistics must be taken with a grain of salt.¹³ All the factors that may have contributed to the increase are not known but land, labor, material, financing, servicing and tax costs in

¹⁰Ibid., p. 6.

¹¹McLeod, Young, and Weir, Monthly Market Review, March 1973.

¹²Edmonton Journal, May 26, 1973, p. 13.

¹³Time, June 11, 1973, p. 6.

addition to economic and population growth are certainly among them. We are particularly interested in the role of land.

B. Land Values Generally

The index of the cost of producing a single detached dwelling under NHA increased from 100 in 1961 to 148.1 in 1970, whereas the land cost portion rose to 164.5.¹⁴ The increase has been particularly marked since 1965, rising from 118.9 to 164.5 in five years. These increases are especially significant as there is some evidence that houses are built to maintain a certain ratio between building and land costs.¹⁵ Rising land prices therefore also have a secondary effect on dwelling costs.¹⁶

This situation would appear to exist in all major Canadian cities but the increase in lot costs has been more pronounced in some. Toronto, Ottawa and Hamilton appear to have experienced the largest increases in lot values on the North American continent with 139, 147 and 177 percent respectively between 1961 and 1971.¹⁷ Dennis and Fish show

¹⁴Michael Dennis and Susan Fish, op. cit., Table 4, p. 76.

¹⁵Ibid., p. 80 and Table 6, p. 79.

¹⁶In Toronto and Vancouver the land cost percentage reported by Dennis and Fish does in fact appear to be growing--from 29 to 35 and 22 to 28 percent respectively between 1961 and 1970.

¹⁷A. Derkowski, op. cit., p. 6.

the land cost for a new N.H.A. bungalow in Toronto and Vancouver (among others) to have increased from \$5,100 to \$10,400 and from \$3,600 to \$7,000, respectively, between 1961 and 1970.¹⁸

The compound annual growth rates in land costs for new N.H.A. single detached homes between 1961 and 1971 based upon C.M.H.C. statistics are computed by McLeod, Young, Weir.¹⁹

The changes have not been quite as large in other cities but available evidence strongly suggests that almost all are experiencing rapidly increasing lot prices.²⁰

C. Edmonton Lot Prices

Significant increases have taken place as well in Edmonton land values, particularly in recent years. The data presented by Dennis and Fish²¹ show a 15.2 percent increase for Edmonton from \$4,600 in 1969 to \$5,300 in 1970. The increase from \$3,700 in 1967 to \$4,300 in 1968 was also

¹⁸Michael Dennis and Susan Fish, op. cit., Table 6, p. 79.

¹⁹McLeod, Young and Weir, op. cit., Table IA.

²⁰Notable exceptions are Montreal and Saskatoon. (Montreal has the highest municipal taxes of any city in North America which greatly reduced the effective cost in terms of monthly carrying charges between home ownership in Montreal and Toronto; McLeod, Young, Weir, op. cit., p. 1.)

²¹Michael Dennis and Susan Fish, op. cit., Table 6, p. 79.

significant equalling 16.2 percent.²² The same series shows a 13 percent increase from \$5,885 in 1970 to \$6,663 in 1971.

Similar large increases are shown by Bettyson and Taylor based upon a C.M.H.C. report on land values. Several subdivisions showed increases in excess of twenty percent.²³ An indication of lot values in new subdivisions can also be obtained from sales of city owned lots even if these were fairly few (see Appendix III, Exhibit 6).

We accept the conclusion that Edmonton lot prices have increased significantly in recent years, but the data do not permit determination of exactly how large the increase has been. We review the available data in the following section and discuss the areas where improvement ought to be made.

Availability of Information on Edmonton Land Values

Systematic information on lot prices is not generally available. Some basic data exist in a number of

²²It is somewhat surprising then that Dennis and Fish regard increases in land costs as having been "steadier in Winnipeg, Edmonton and Canada as a whole" (p. 80) (our emphasis). Also, we are unable to verify the figure of \$5,300 for 1970. Canadian Housing Statistics, 1970 and 1971 give the Edmonton land costs as \$5,885 for the year 1970 (Tables 86 and 87).

²³Ian Bettyson and Larry Taylor, The Process of Urbanization in Alberta, Unpublished Manuscript, Chapter 5 (See Appendix III, Exhibit 2). Additional data are contained in Alberta Housing Corporation, A Satellite Community Study for the Edmonton and Calgary Areas, October 1969.

different places but either are not arranged in a form suitable for analysis or are not published. This preliminary review of available statistics makes no pretention of being complete but is intended to cover the more apparent sources.

The Edmonton Real Estate Board publishes annual statistics (beginning 1972) on residential lot sales (among other things). All MLS sales completed are listed per two-month period including size, selling price, down payment and address. (See Appendix III, Exhibit 1.) This information would permit the calculation of average prices for MLS sales of the year (or for different times during the year) in various locations, even though based on fairly few observations. It would also permit determination of average price increases from year to year once data became available for more than one year. However, the data are not really sufficiently well defined to permit detailed analysis. Differences with respect to services, for instance, are not indicated. Non-MLS sales may also constitute a significant portion of total sales or be systematically different in some respect. The data series therefore ought to include also these sales.

CMHC publishes yearly statistics on estimated costs of new NHA single detached dwellings in metropolitan centres including Edmonton with the land portion broken out.²⁴

²⁴Central Mortgage and Housing Corporation, Canadian Housing Statistics.

<u>Year</u>	<u>Number</u>	<u>Total Cost</u>	<u>Land Cost</u>	
1971	2620	\$24,709	\$6,663	(Table 87)
1970	1663	\$25,161	\$5,885	(Table 86)

CMHC is the agency vitally concerned with housing. It is reasonable to expect that its statistics be representative and encompassing a wide range of areas. However, it is typical of the data available that they are not particularly precise and detailed. Nor are they very extensive. The data on land costs discussed above are CMHC statistics on NHA financed single detached dwellings but the costs are only estimates made by loan applicants only some of whom are builders. Admittedly builders are in a good position to make such estimates but the fact that different builders as well as owners may be estimating differently makes it difficult to assess the accuracy of resulting estimates. There are likely to be consistent (and possibly other) differences among builders in the same city as well as in different cities. It would appear desirable to complement the statistics with data from actual sales as well as from municipal assessment records.

More importantly, however, the data need to be more detailed to avoid distortions that may result from the averaging of heterogeneous groups. Specifically, the data on metropolitan lot prices must use a precise definition of lot, e.g. "average market prices for standard fully serviced

50-foot residential R-1 lots in new gravel-lane subdivisions based upon actual sales to residents."²⁵ If the variation in prices is large also the standard deviation of the frequency distribution should be given. It is important also to convey specific features pertaining to a subdivision that may account for part of the prices paid (e.g. bicycle paths, double or single sidewalk streets, ravines, etc.), or to identify factors like a backed up demand in a particular area of the city due to a lack of new subdivisions there during recent years. Without such information it is not possible to tell whether the data represent true market prices or are simply a reflection of temporary adjustments to accumulated demand in some part of the city.

Precision in the specification of services available to each lot and included in the price is equally important, e.g. sewer, water, streelighting, underground power, two-inch asphalt streets, four-foot-six walks with curbs on both sides of the street, etc. What other services are available (e.g. natural gas and telephone) and how they are paid for also needs to be indicated. It is possible to attribute cost increases to improvements in the quality of services to the extent that consistent and

²⁵The depth of the lot, the services included and prepaid as well as financed through user rates also need to be made precise. This is further discussed below.

detailed time series of data are available. Cost increases attributable to storm sewer extensions are only traceable if detailed data on expenditures and procedures employed for allocating costs between the subdivisions of the drainage basin are available. Since not all subdivisions are opened at the same time, and since expenditures generally occur at different times and typically in advance some present value adjustments may be required.

It would be helpful to have an indication of how representative NHA homes are with respect to the entire market for new homes. If NHA houses constitute a small proportion of the market each year then CMHC statistics may become progressively less representative.

CMHC also from time to time studies specific topics and prepares internal reports among them some recent ones on land values. Regrettably, however, they are regarded as confidential, even if some researchers appear to have access to this material. (See Appendix III, Exhibit 2.)

The Alberta Department of Agriculture publishes annual statistics (beginning with 1970) on rural real estate values in the Province. One section of this report is devoted to land in the urban periphery of Edmonton and Calgary.²⁶

²⁶ Alberta Department of Agriculture, Resource Economics Branch, Rural Real Estate Values in Alberta, 1971 and 1972, see Appendix III, Exhibits 3 and 4.

A comparison for the less than five-acre category shows an increase in the average value per acre from \$2,839 in (the Fall of) 1970 to \$8,219 in 1971. There was also an increase in the number of transactions and a slight decrease (to under two acres) in the average parcel size. Significant price increases (even if less drastic) occurred also in other size classes.

However, some caution is warranted in the use of these statistics. The report is concerned with rural real estate values and interest in land on the urban periphery is only ancillary. The data cover all sales registered in the Alberta Land Titles Offices during the year (except those legally described by lot, block and plan). Improvements are not excluded from the price of the property and values quoted for the smaller acreages, where buildings may constitute a larger part of the total value, may therefore be misleading.

A map in the same report provides a convenient overview of peripheral land prices around Edmonton (see Appendix III, Exhibit 5). The figures used for the map are average value per acre for quarters of townships. This averaging over fairly large areas (nine sections) means that the map cannot be used to estimate market values of specific parcels.

The Property and Building Management Department, City of Edmonton, has ledger records of city sales.

However, these represent fairly few lots and they are generally sold at below market prices with the exception of some sold under closed bidding. The information is not published but can be obtained from the ledger. A sample is presented in Appendix III, Exhibit 6.

The City Assessor also keeps records of property being sold within the City of Edmonton. The price and year is marked on zoning maps but the month of sale, only on file cards. To establish whether the buyer is a developer or builder requires checking a record (ledger) card and considerable effort would be required to make this information available on a systematic basis.

Local Improvement Costs for serviced lots in the city are available from reports prepared annually by the City Engineer. These reports are sufficiently detailed to permit quite precise analyses of improvement costs per subdivision (given some knowledge of the subdivision). Examples of local improvement costs are presented in Appendix III, Exhibit 7.

Derkowski has a cost breakdown for different subdivisions in Toronto.²⁷ See Appendix III, Exhibit 8. These figures are presented in percentage terms in Exhibit 9, illustrating the approximate magnitude of the different component costs of a serviced lot.

²⁷A. Derkowski, op. cit., Table A5.

A corresponding breakdown for the Lee Ridge neighborhood in Mill Woods where lots were sold the first half of 1973 is presented in Appendix III, Exhibit 10. Cost comparisons between subdivisions between cities as well as within the same city will necessarily be difficult as different developers are apt to use a different breakdown. Different methods of accounting for overhead etc. will also affect costs. It is apparent, however, that land, storm sewers and asphalt are among the major components.

Another difficulty is precise definition and use of the same methods for estimating costs. The following are the definitions used in Exhibit 10.

Water and sewer costs are actual contract prices paid. Street and sidewalk costs as well as telephone and power costs are as specified under the Unit Rate Bylaw (approximately equal to the average cost throughout the city during the previous twelve months plus an escalation factor as provided by the City of Edmonton Engineering and Transportation Department). Walkway costs are estimates of actual costs. Finance charges are interim financing costs at 8½% interest for an average of six months on construction costs for local improvements. Replotting charges include surveying and planning costs, municipal and registration fees as well as compensation to owners.

Land at \$44 per front foot represents 71% of an appraised market value of \$62. (A 35-foot fully serviced

lot in Lee Ridge is appraised at \$8,000 in a memo to Mr. P. Ellwood from Mr. V. Prizek dated August 29, 1972. This gives \$145 per front foot which, less improvements of \$83, equals 62; \$44 also equals 80% of an appraised value of \$55 per front foot for Richfield neighborhood according to a similar memo. This gives an indication of the difference between market value and sales price of lots in Lee Ridge. However, some uncertainty may surround the estimate of market value before an area is sufficiently established for a number of sales to occur.

Of the \$44 for land about \$24 are long and short term finance costs of the land purchase, whereas principal payments, administrative and planning costs make up the remaining \$20.

Comparable figures for Tweddle Place and Kameyosck neighborhoods where lots are going on sale in August, are presented in Appendix III, Exhibit 11. The noticeable increase in finance charges are due to an increase in the time period from six to twelve months.

Data Regarding Lot Quantities and Other Non-Price Information

One may not be satisfied by simply establishing what the price increases of land during recent years have been, but one may also wish to determine the underlying causes and/or to explore some of the effects. A number

of possible causes are mentioned in the literature but there appears to be a lack of scientific enquiry to establish the net effect of different causes. A shortage of serviced lots has been mentioned as a key contributing factor to increasing lot prices in some metropolitan areas. This would seem to be quite a plausible explanation. However, there does not appear to be any studies attempting to relate availability of serviced lots to the need in order to establish the magnitude of any shortage. Nor are there any systematic investigations into what may have caused the shortage has been established. Suggestions range from speculators buying up the land and holding it off the market, to delays brought about through a cumbersome planning-subdivision-zoning process, to problems associated with storm sewer extension and financing.²⁸ It is likely that a number of factors have contributed, among them population growth, or more precisely increases in the number of households in the metropolitan housing shed. However, answers will only be found if systematic and detailed studies are carried out.

Initially it is important to start keeping information on a regular and systematic basis with respect to a number of factors involved such as the quantity of lots on the market at any one time. The City Planning Department

²⁸In fact a large part of present press coverage is made up of reports where various constituent groups blame each other.

takes a survey generally at six monthly intervals of the number of single-family lots available in developing subdivisions in the city. The basic information provided is illustrated in Appendix III, Exhibit 12.

This information makes it possible to relate the number of lots offered in various Mill Woods subdivisions to that available in other subdivisions as well as the city as a whole. One relative gauge of the impact of Mill Woods is of course its influence in terms of sheer numbers. For instance as of April 30, 1973, Lee Ridge had something like one-third of the total number of vacant serviced lots in the city, and over half of all lots serviced since the previous count.

The information provided by this survey is quite useful, however, the survey is not really precise enough to provide a continuous monitoring of the lot market. Firstly, on developing subdivisions are covered so there may be a fair number of lots left out in essentially completed subdivisions. Also, small subdivisions are generally not covered. Secondly, and more importantly, in order to assess the Edmonton lot market one needs to know the entire supply on a continuous basis. This should include the number of serviced lots offered for sale to individuals in different neighborhoods, as well as sold, on a monthly or quarterly basis. Also that segment of the market which is made up of

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private persons selling vacant lots should be covered preferably including price information. Such a data series would serve as a continuous barometer of the lot market.

Since the lot market forms part of a larger market there needs to be a similar barometer for the housing market covering both ownership and non-ownership alternatives. Data on rental accommodation is required as it constitutes part of the housing market and influences the demand for housing. A net increase in the number of households would tend to exert stronger pressure on house prices in a situation of relative shortage of various types of apartments than if vacancy rates were high and rents generally lower. Having such a data series would help in attempting to trace the causes of increased house and land prices.

Through a continuous monitoring of the housing market in its entirety it may be possible to detect upcoming shortages before they develop. By following lots being serviced and building permits issued it should be possible to compare net additions to the housing stock with population projections. This could permit determination of the number of Mill Woods lots required to maintain a certain balance between demand and supply.

The demand side would need to include statistics on the number of households as well as their disposable income. At the outset it is probably sufficient to cover just the

number of households but increasing sophistication would require a breakdown into various sizes of households and probably also an analysis of the household formation process. (A similar breakdown should then be used for house types and sizes.)

Ultimately, it would be desirable to construct an overall housing model that would permit an analysis of different policy parameters. As a starting point one should gather information on available dwellings on the one hand, and seekers of accommodation (net increases or decreases in the number of households) on the other. This would amount to a continuous housing inventory analysis and a continuous demographic study of the household formation process (marriages, divorces, deaths, migration, etc.) as well as a linking of the two.

Considerable effort would be required simply to conceptualize the separate models and their relationship to each other. However, it would seem feasible to establish a relationship between physical quantities at the first stage, and introduce house and lot prices and household disposable income in a second stage. It is clear, however, that without this information it will not be possible to establish the need for lots, the effect of a different number of Mill Woods lots being marketed, or what the proportion ought to be between various types of residential and industrial lots.

It is not sufficient to consider only the area of housing. There are a number of interrelated issues into which insight will only be gained if certain data are captured on a regular basis. For instance, it may be more expensive for the Municipality and the Province to provide transportation, education and utilities, as well as other services if the urban fringe is relatively large. It may therefore be desirable to monitor residential and other developments in the fringe areas as well as measure commuter traffic. There is reason to believe that this is related to availability of housing in the city.

Among the possible effects of lot price increases in Metropolitan Edmonton in recent years is a population shift to suburbs, rural centres and acreages. An indication of this shift is conveyed by the table below.

TRENDS IN DECENTRALIZATION

Miles from Centre	1941-51	1951-61	1961-66	1966-71
0--6	7,470	14,400	13,280	13,775
6--12	40	585 (3.1)	1,820 (11.6)	2,435 (14.1)
12--20	270	270 (1.8)	570 (3.6)	1,115 (6.4)
		15,255	15,670	17,325

Average Annual Increases in Urban Population (communities over 1,000 population) of the Edmonton Region in Relation to Distance from the City Centre, 1941--71.

Source: Government of Alberta Task Force on Urbanization and the Future, Choices for Metropolitan Growth, March 1972 (Percentages added).

An increasing proportion of the regional population growth has taken place in the categories 6 to 12, and 12 to 20 miles from the city centre. A similar picture is conveyed by two other studies: The Satellite Community Study,²⁹ and The Process of Urbanization in Alberta.³⁰ The latter shows population for Sherwood Park and Spruce Grove (among other satellite centres) to have increased 33.3, 30.0, 30.7 and 53.5, 66.7 and 62.8 respectively year by year since 1968.³¹ (The data were taken from Edmonton Regional Planning Commission Annual Reports.) Bettyson-Taylor also show single family housing permits for Edmonton as a percentage of total regional permits to have decreased year by year since 1967: 91.5, 85.4, 64.0, 60.3.³² (The data were taken from Edmonton Regional Planning Commission Annual Reports.)

Of course, one cannot determine the cause without a specific investigation for this purpose and there is likely to be a number of contributing factors including shifting preferences. However, increasing city lot prices is likely to be one of them.

²⁹Alberta Housing and Urban Renewal Corporation, op. cit.

³⁰Ian Bettyson and Larry Taylor, op. cit.

³¹Ibid., Table 4, p. 25.

³²Ibid., p. 28.

A consequence of an increasing proportion of the population in satellite communities is a drop in city school enrollments. An Edmonton School Board report claims that 59 percent of the net enrollment loss during the 1971--72 and 1972--73 school years is accounted for in satellite communities (Edmonton Public School Board, Enrollment Trends, memo from T.W. Meen to M.A. Strembitsky, dated January 19, 1973).³³ The report predicts that enrollment will continue to decline but how much of the decline will be attributable to migration is not discussed.

It is evident from the above discussion that one needs to include satellite communities as well. This raises the issue of the definition of the "Edmonton Housing Shed." Conceptually this should include all property regardless of distance from Edmonton which represents an alternative to housing in Edmonton. To find an operational definition, however, of this concept may be difficult and it may require a sociological study to determine the set of alternatives considered by households locating in the Edmonton area. In the meantime it would seem reasonable to include communities and subdivision up to about thirty or forty miles from the city centre somewhat depending on transportation facilities.

³³ The report attributed the course of the migration to Edmonton lots not having been price competitive, but no analysis to support this conclusion is presented. Also, the term "net enrollment loss" is not defined, but appears to refer to the decline in total enrollment since the high in 1970--71.

Some practical difficulties may arise in expanding the current data series to cover the entire Edmonton region from different governments being hesitant to assume responsibilities outside their boundaries. For instance, a case may need to be made to the City Planning Department before they would undertake to expand their lot count to the total housing shed.

Data Requirements

Our recommendations with respect to data gathering are set out in Project 8. It is worthwhile, however, to comment briefly about some of the difficulties involved.

Firstly, it is always difficult to decide how broadly or narrowly a project should be defined. It is to be expected that the current gold situation influences the land market in providing opportunities to investors that may offer more attractive alternatives. The amount of financing available and the rate of interest charged may influence the price a purchaser may be willing to pay for a house or a lot. The breakdown between various types of residential and commercial lots in different Mill Woods subdivisions may very well influence the overall cost of the project. There is a range of such issues that might be quite worthwhile to explore. However, the initial approach ought to be concerned with more immediate supply and demand relationships. Also, the terms of reference

are directed at residential lot prices. We have therefore limited our recommendation to this area.

Secondly, whenever one embarks on a project to set up a mechanism for gathering statistics a series of questions arise ranging from which is the appropriate agency to assume the responsibility, to the form in which the data should be stored. We are not in a position to recommend the agency in the present case. Nor can we comment on the technical facilities available to different agencies. However, we do specify the data that in our opinion should be gathered.

We also recommend that the data collection be viewed as a pilot project for a future data bank and that discussions be initiated between the Alberta Housing Corporation, the City Planning Department, C.M.H.C., the Edmonton Regional Planning Commission, the Ministry of State for Urban Affairs, and other interested parties on the issue of a data bank. It is well recognized that the establishment of a data bank requires considerable effort both in the co-ordination of the needs of the different users and in technical design. It is also important to start on a modest scale and allow time for user needs to evolve as modifications become progressively difficult as the project develops.

Thirdly, one cannot really recommend exactly what data should be gathered as it frequently occurs that a

slight modification in the data results in significant savings in cost. Furthermore agencies gathering statistics are constantly modifying their data and information presently obtainable through the civic census may very well have changed by the time Project 8 gets under way. It is for the above reasons that Project 8 needs to be the responsibility of an agency with sufficient resources to effect the continuous co-ordination required with other suppliers and users of information.

Conclusions

Our work on the urban land data in the Edmonton area has led us to the conclusion that these data are inadequate both in regard to quantity of lots being demanded and supplied and in regard to the price of these lots.

We would propose the initiation of an ongoing data collection scheme covering both of these aspects of the urban land market in order to provide advance warnings of, and adequate information to deal with, changing conditions in the urban land market. The principal dimensions of the problem on which data should be gathered are:

- (i) Estimates of future requirements of urban residential land and number of residential lots.

The work in this area could begin with simple projections of the rate of land development being preliminary to a more complete housing market model which

would reflect the influence of population changes and other variables upon demand and supply relationships.

- (ii) The level and pattern of urban land and residential lot prices in the Edmonton sub-region.

One basic problem to be overcome in this area is the separation of data reflecting sales at market value from data on non-arms-length or other sales at artificial prices.

Collection and analysis of this information is one step. Dissemination of the information gathered is an even more important step. Simply improving the information of the various participants in the urban land market may have a more marked influence on the operations of this market than the entire Mill Woods land bank operation.

SECTION V

BUDGET ESTIMATES

Budget estimates for each of the projects are stated below. Dollar amounts are not shown since these could vary depending on whether consultants or in-house personnel are involved and on how the overall research program is organized.

Project 1

Examination of the trend in residential
lot prices in the Edmonton sub-region

1 Junior one-fourth time for one year

Project 2

Identification of the components of the
increase in land costs and measurement
of the influence of changes in lot size
on residential land costs

1 Senior full-time for one and one-half
years

2 Juniors full-time for one year

Project 3

Measurement of the influence of the level
of improvement costs on residential land
costs

1 Senior full-time for one year

1 Junior full-time for one year

Project 4

Measurement of the influence of public sector supply restrictions (zoning, servicing standards, development agreements, annexation procedures) on residential land costs

- (i) Fiscal zoning uses output of Project Nil
- (ii) Zoning and servicing procedures
 - 2 Seniors full-time for one year
 - 1 Junior full-time for one year

Project 5

Study of the industrial organization of the private sector land market and identification of the nature of private sector restrictions on land supply

- 2 Seniors three-fourths time for one year
- 2 Juniors three-fourths time for one year

Project 6

Measurement of the value of various elements of natural scarcity of urban land

- 1 Senior half-time for one year
- 4 Juniors half-time for one year

Project 7

Identification of these groups whose incomes are increased or decreased by land bank operations and measurement of the extent of income redistribution involved

- 1 Senior full-time for one year
- 3 Juniors full-time for one year

Project 8

Collection and analysis of data necessary to provide a continuing monitoring of the Edmonton land market and the impact of Mill Woods thereon.

Since these activities would of necessity be carried out by staff of existing agencies the cost estimates would involve a review by these agencies of their present staff and work programs.

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APPENDIX I

DETAILED OUTLINE OF RESEARCH PROJECTS

PROJECT I

EXAMINATION OF THE TREND IN RESIDENTIAL LOT
PRICES IN THE EDMONTON SUB-REGION

Purpose

To illustrate the gross effect of land bank operations on land prices in Edmonton as compared to land prices in other cities and as compared to other relevant cost and price indicators.

While obviously oversimplified since the effect of all other changes is not considered such an examination has merit in that it focuses on the variable with which policy makers were initially concerned. Continuous monitoring of the impact of the Mill Woods land bank on residential lot prices requires a continuing examination of the trends in the level and rate of increase of these prices for the years 1972 forward.

Data Required

Various published price and cost indices (such as consumer price index) are available for comparative purposes.

To make meaningful comparison of trends in land prices in other centres, adequate lot price data for Edmonton and for these other centers would be required. The definitional and other problems involved are discussed

in the section on data problems above.

Data Available

The required price and cost indices are available. Lot price data for other Canadian cities is not available in a form which permits meaningful price comparisons with other Canadian cities.

Task

The data required to carry forward the analysis of land costs, building material costs, various prices indices, for years subsequent to 1970 should be gathered for Edmonton and for the other Canadian cities considered in the Dennis Report. Chart reconstruction would be required. Also a distribution of new NHA homes by total property value and market price of site (including site value as a percentage of total value) should be prepared for the various cities.

Cost

1 Junior one-fourth time for one year

PROJECT 2

IDENTIFICATION OF THE COMPONENTS OF THE INCREASE IN LAND COST

Purpose

At five year intervals the components of the cost of residential lots should be factored out. These cost elements should include changes in lot size, improvement cost, agricultural opportunity value of land, and a residual element of scarcity rents. This will identify clearly the components of land costs which have increased most rapidly. Such an identification will serve not only to delimit the potential contribution of the Mill Woods land bank, but also to highlight the need for supplementary policy changes in related areas.

Evaluation of the cost control performance of the Mill Woods land bank requires an additional step in the analysis. The detailed make-up of the costs of Mill Woods lots should be compared to the cost make-up of lots offered by private developers.

In order to accomplish the first step - the factoring out of the cost components it is necessary to standardize for changes in lot size, development cost,

etc.¹ in order to isolate the influence of new land price changes on lot values. This will isolate the amount of rent available for elimination or redistribution.

The evaluation of Mill Woods cost control requires the building up of detailed cost data for Mill Woods lots and for lots offered by private developers.

Data Required

1961, 1971 and subsequent year data on lot size, lot value, and cost to develop for the Edmonton area.

Data for corresponding time periods for value of land for agricultural purposes for the Edmonton area.

Detailed cost data on Mill Woods land development costs and for the costs of private developers.

Data Available

Edmonton Real Estate Board data on private lot sales and unpublished CMHC land price data. (See Appendix III Exhibits 1 and 2.)

Detailed development cost data is available for Mill Woods and can probably be obtained from developers.

¹Theoretically attempts should be made to factor out such negative changes in the quality of residential lots as sprawl, mixes of uncomplementary uses higher transportation and servicing costs and poorer physical environment.

Task

A sample survey² of lot prices for the years 1961, 1971 and annually thereafter should be carried out. Data should be gathered on (i) lot size, (ii) lot value, (iii) cost to develop. The data should be analysed to determine the importance of lot size, development costs, and the land value residual as determinants of residential lot values. Data on value of land in the Edmonton area for agricultural purposes should be analysed to determine their influence on the land value residuals calculated above.

Evaluation of Mill Woods cost control requires the development of detailed cost data following Wagner's approach for Lisle Illinois. This should be done for Mill Woods and for two or three competing subdivisions.

Cost

1 Senior full-time for one year
2 Juniors full-time for one year
Computer time
Support staff and sundries

²Maisel's sample size was 114.

PROJECT 3

MEASUREMENT OF THE INFLUENCE OF THE LEVEL OF IMPROVEMENT COSTS ON RESIDENTIAL LAND COSTS

Purpose

Improvement costs are an important element of total residential lot cost, (e.g. for a Mill Woods lot costing \$6400 local improvements account for 65% of the price). Realized costs of public provision of improvement should be compared to private sector development costs. This will identify the savings (or otherwise) on improvement costs generated by operation of the Mill Woods land bank, (e.g. private sector efficiency versus public sector efficiency, the importance of scale economics).

Data Required

Improvement cost data at various levels of output for both public sector and private sector land developers.

Data Available

Improvement cost data is available for City of Edmonton developments. (See Appendix III Exhibit 7) Comparative data on improvement costs for private development in the Toronto area is available in A. Derkowski's report "Residential Land Development in Ontario." (See Appendix III Exhibits 8 and 9). It would be desirable to obtain

corresponding data for private developments in the Edmonton sub-region from private developers in this area.

Task

The land improvement cost function should be estimated for the Mill Woods group as well as for a number of private developers is possible. A more detailed analysis focusing on the separate costs of providing each improvement (i.e. utilities, sewers, streets) could be considered in this regard.

This will enable comparisons of the level of costs of public versus private developers. Particular attention should be paid to the question of economies of large scale land development.

The effect of subdivision layout on the amount of land, utility lines, sewers, streets, etc. should be examined to supplement the cost function analysis.

Cost

1 Senior full-time for one year
1 Junior full-time for one year
Engineering Consultants

PROJECT 4

MEASUREMENT OF THE INFLUENCE OF PUBLIC SECTOR SUPPLY RESTRICTIONS (ZONING AND SERVICING DELAYS) ON RESIDENTIAL LAND COSTS

Purpose

In the case of public sector supply restrictions, we propose an examination of the interrelationships between the public sector and the private developer focussing in particular on a measurement of the importance of fiscal zoning, sub-division regulation, unduly slow or restrictive development controls, and restrictive servicing policies. Land banking is of course a separate policy instrument and cannot directly influence policy in the above areas. However, adequate investigation of these matters must be undertaken if an evaluation is to be made of the extent to which the benefits hope-for from the land bank operation are being eroded by offsetting, inappropriate policies in other areas. In addition such analysis will of course highlight the nature of supportive complementary policy changes required to reduce public sector restriction on the supply of land.

Three studies should be undertaken in order to examine these questions:

- (i) Investigation of the extent of fiscal zoning in the Edmonton sub-region (i.e., inordinately large lots). Subdivision regulations will be examined in this regard.
- (ii) Study of municipal servicing policies in the Edmonton sub-region - procedures, financing arrangements, need for orderly development. The following items are relevant:
 - annexation procedures
 - zoning - regional and city
 - outline Plans
 - subdivision approval procedures
 - development agreements and procedures
 - sewer and water treatment plants development procedures etc.

Since other levels of government are involved in these matters a full examination of the policies and procedures of the agencies concerned must be undertaken. Analysis of a selected group of case histories would appear to be the most appropriate methodology (see below).

- (iii) Appreciation above production costs occurs whenever the public sector provides services or attributes for less than what they are worth to purchasers of residential lots. Project 6 will produce as an output estimates of what various services or attributes are worth to buyers.

Data Required

Considering each study in turn, the following data will be required:

- (i) Lot size data for the Edmonton sub-region and for other Canadian cities for a number of years (see Project 2).
- (ii) Detailed information on the development and servicing procedures of the Edmonton sub-region.
- (iii) For value-to-buyer data see Project 6. Additional data required on prices changes for various public services.

Data Available

- (i) Lot size data will be available as an output of Project 2. Historical lot size data for other Canadian cities is probably available from the various city planning departments.
- (ii) Detailed investigating work would be required to assemble the information required for a full understanding of the importance of the various developmental and servicing restraints.
- (iii) For value-to-buyer data see Project 6. Price data on public services is available.

Task

- (i) See Project 2.
- (ii) Possibly work in this area could be patterned along the lines of the Australian work being done by F.J. Bromilow who states:

An understanding of the land conversion process requires a knowledge of:-

- (a) The nature of the restrictions limiting the supply of land for various purposes (such as residential, commercial, industrial, and recreation).
- (b) The extent to which these restrictions are caused by lack of funds, engineering resources, delays in approvals, and so on. (The Jennings' model (quoted in (1) should help in this).
- (c) The quantities of land actually being affected by each of these restrictions.
- (d) The proportions of land used for all the various purposes such as homes, streets, parks, shops, and industry. This information would make it possible to explore the cost-residential density relationship.¹

The aims of this study will be to:

- (1) To identify the nature and sequence of the steps which are followed in the process of converting land to building sites, and then to habitable sites.
- (2) To measure the time actually taken at each significant stage.
- (3) To measure the changes in land values over each significant stage.
- (4) To identify stages at which the elapsed time or the change in land value or both might usefully be reduced, and the

¹F.J. Bromilow, "Some Comments on Research Into the Land Conversion Process," Second Report of the Task Force on the Price of Land, Appendix II (Canberra, Australian).

measures that would be necessary to effect worthwhile reductions.

- (5) To measure the effectiveness of the research procedures being adopted, and to identify the ways in which further investigations could be carried out.²

- (iii) The values placed by buyers on various public services and attributes will be an output of Project 6. The values should be compared to the prices actually charged for such public services. Excesses of value over price can be expected to be capitalized into land values.

Cost

Study (i) on Fiscal zoning:

- See Project 2.

Study (ii) on zoning and servicing procedures:

- 2 Senior full-time for one year
- 1 Junior full-time for one year
- Support staff and sundries

Study (iii) on pricing of public services:

- 1 Senior one-third time for one year
- Support staff and sundries

²Ibid.

PROJECT 5

STUDY OF THE INDUSTRIAL ORGANIZATION OF THE PRIVATE SECTOR LAND MARKET AND IDENTIFI- CATION OF THE NATURE OF PRIVATE SECTOR RESTRICTIONS ON LAND SUPPLY

Purpose

In the case of private sector supply restrictions we propose a complete and comprehensive investigation of the workings of the private sector land market in the Edmonton sub-region. Such a study will identify the buyers and sellers of land, measure the market power of sellers, investigate the interrelationships between sellers and evaluate the economic performance of the private land market. Examination of the factors affecting landholders' ability to withhold supply¹ will enable us to have a better understanding of the nature of the impact of the Mill Woods land bank on the ability to withhold supply and will indicate methods of sharpening this impact. Development of an appropriate marketing strategy for the Mill Woods land bank - in terms of both prices and numbers of lots - is impossible without a sound understanding of the private market context in which the land bank is operating.

¹The property taxation and taxation of capital gains of land developers are two of the many items affecting holding costs which will be examined here.

Data Required

Information on the various elements of market structure, market conduct, and market performance as discussed in the "Task" section below will be required.

Data Available

Sufficient information is available to prepare a meaningful study. The most important area where data is lacking is that of ownership patterns.

Task

Information on each of the elements of market structure, market conduct and market performance as noted below will be required for the urban land market in the Edmonton sub-region.

I. Market Structure

- (a) The degree of seller concentration - the most important determinant of the nature of the competitive process in the urban land market. Described by the number and size distribution of sellers in the market.
- (b) The degree of buyer concentration - defined in parallel fashion.
- (c) The degree of product differentiation as among the outputs of the various sellers in the market - that is, the extent to which their outputs (though similar) are viewed as non-identical by buyers.

- (d) The condition of entry to the market - referring to the relative ease or difficulty with which new sellers may enter the market as determined generally by the advantages which established sellers have over potential entrants.

II. Market Conduct

- (a) Determination of selling prices by sellers. The objective pursued and the method employed by a firm or group of firms in calculating or determining price and output. As to objective, is the aim for maximized group profits, maximized individual profits, or for a conventional or "fair" profit margin? As to method, are prices made by adding a certain margin to costs, or by other devices? And is a single price charged, or a set of discriminatory prices to different buyers?
- (b) The product policy of the firm or group. Is product improvement or variation over time (via changing design) a part of the individual or collective market policy? If so, what is the character and orientation of the product variation policy?
- (c) The sales promotion policy of the firm or group. Do advertising and other sales promotion play a significant role in the individual or collective market policy? If so, by what methods and according to what principles is the volume of advertising expenditure determined?

- (d) Means of co-ordination and cross-adaptation of price, product, and sales-promotion policies of competing sellers.

III. Market Performance

- (a) Technical efficiency. The relative technical efficiency of production so far as this is influenced by the scale or size of plants and firms (relative to the most efficient), and by the extent, if any, of excess capacity.
- (b) Allocative efficiency. The height of selling price relative to the long-run marginal cost of production and to the long-run average cost of production (usually about the same as long-run marginal cost), and the resultant profit margin. The size of industry and output relative to the largest attainable consistent with the equality of price and long run marginal cost.
- (c) The size of sales-promotion costs relative to the costs of production.
- (d) The character of the product, or products, including design, level of quality, and variety.
- (e) The rate of progressiveness of the industry in developing both products and techniques of production, relative to rates which are attainable, and also economical in view of the costs of progress.

The study will be designed to illustrate how the market structure influences the market conduct of urban land sellers and how both influence the performance of the urban land market. In particular the nature of private sector restriction on land supply will be isolated and their influence on land prices identified. Holding costs of developers, non-developers, farmers and non-farmers will be identified and can then be compared to holding costs of public land banks.

Cost

2 Seniors three-fourths time for one year
2 Juniors three-fourths time for one year

PROJECT 6

MEASUREMENT OF THE VALUE OF VARIOUS ELEMENTS OF NATURAL SCARCITY OF URBAN LAND

Purpose

To evaluate the relative importance of various elements of natural scarcity of urban land for residential purposes, we propose that data on these elements (distance from city centre, natural amenities, conflicting uses) be gathered for a systematic sample of properties and that the relative importance of the various factors be estimated using multiple regression analysis.

Such an analysis will reveal the value buyers place on various public services such as parks or transportation improvements. The value placed on zoning will also be indicated. Changes in the level of provision of such services or in their pricing may be indicated as a result of this research. Also provided will be a measurement of the relative importance of the various factors responsible for the development of the satellite towns surrounding Edmonton.

Data Required

For properties lying along three or four rays drawn outward from the city centre information on the variables to be tested would be required. An accessibility index

could be based on distance or travel time from the CBD. An amenity index could be constructed using the view of real estate agents, or of a sample of citizens conversant with the characteristics of various areas. Value of improvements or a neighborhood variable reflecting number of rooms per person could also be used. A topography variable might be used.

Previous studies have identified as important variables neighbors' median income, degree of crowding, predominance of single-family housing, absence of non-residential uses in neighboring areas and percentage non-white population.¹ Favorable access to parks paid for all taxpayers provides external economies for the favored property-owners.

Data Available

Data on all variables would have to be collected for properties in blocks lying along the sample rays.

¹E.F. Bringham, A Model of Residential Land Values (Santa Monica, California: The RAND Corporation, Memorandum RM-4043-RC, August (1964). The same material appeared in article from in Land Economics, November 1965, pp. 325-34.

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Task

A study of the determinants of residential land values in the Edmonton sub-region. A sample of properties should be chosen by means of drawing three or four rays out from the CBD. For properties located along these rays data should be collected as noted above. Multiple regression analysis should reveal the separate impact of accessibility, amenity, and topography on the value of residential lots in the Edmonton sub-region.

Cost

- 1 Senior half-time for one year
- 4 Juniors half-time for one year

PROJECT 7

IDENTIFICATION OF THOSE GROUPS WHOSE INCOMES ARE INCREASED OR DECREASED BY LAND BANK OPERATIONS AND MEASUREMENT OF THE EXTENT OF INCOME REDISTRIBUTION INVOLVED

Purpose

The underlying objective of land cost control is to make residential land available to a wider range of persons and thereby to provide access to the housing market to persons of moderate means. Therefore the question of equitable distribution of benefits from the Mill Woods project must be considered. The free market price (i.e. in the absence of the land bank) of Mill Woods lots relative to the price of lots in other areas of the Edmonton sub-region can be estimated using the results of the regression analysis of Project 7 above. The extent to which land values were decreased as a result of land bank operations can be estimated using projections based on the data developed in Project 1 and Project 8. Differences between free market prices and prices actually charged, cause redistributions of income towards subsidized lot-buyers and away from general taxpayers. The socio-economic characteristics of these two groups and the total nature of the subsidy involved should be examined. In addition the socio-economic characteristics of other persons who indirectly benefit from land bank

operations by purchasing houses handed down by those moving to Mill Woods should be investigated.

This work will identify the extent to which lower income persons are given increased access to the housing market as a result of land bank operations, the income effect on land sellers and the effect on persons buying the houses sold by those moving to Mill Woods.

Data Required

Regression analysis of time series data on the various determinants of the level of urban land values is required to establish the free market price of Mill Woods lots. Price data for Mill Woods lots is needed for comparison. Socio-economic data descriptive of taxpayers in general, of Mill Woods lot purchasers and of indirect beneficiaries is also required.

Data Available

Data and estimating equations produced as output of Project 6 will produce the required market price estimates. Published census data and taxation statistics will provide information generally descriptive of taxpayers in general. Survey of Mill Woods lot purchasers and of indirect beneficiaries will be required.

Task

Using the value estimates appearing as output from Project 6 and price projections based on the data gathered

in Projects 1 and 8 and the Mill Woods price data calculation of the extent of subsidization is a straightforward task. Calculation of total subsidization can also be done.

A sample interview survey¹ of Mill Woods lot purchasers and of indirect beneficiaries will be performed in order to discover the socio-economic characteristics of those benefiting from the operation of the land bank. These groups can then be compared to the group of taxpayers whose income is being decreased as a result of the project.

Cost

- 1 Senior full-time for one year
- 3 Juniors full-time for one year

¹Sample of possible questionnaire appears as Appendix IV of this report.

PROJECT 8

COLLECTION AND ANALYSIS OF DATA NECESSARY TO PROVIDE A CONTINUING MONITORING OF THE EDMONTON LAND MARKET AND THE IMPACT OF THE MILL WOODS LAND BANK THEREON

Purpose

To initiate action toward a system for gathering and maintaining statistics on Edmonton lot prices and some related quantities and to guide the analysis of this data.

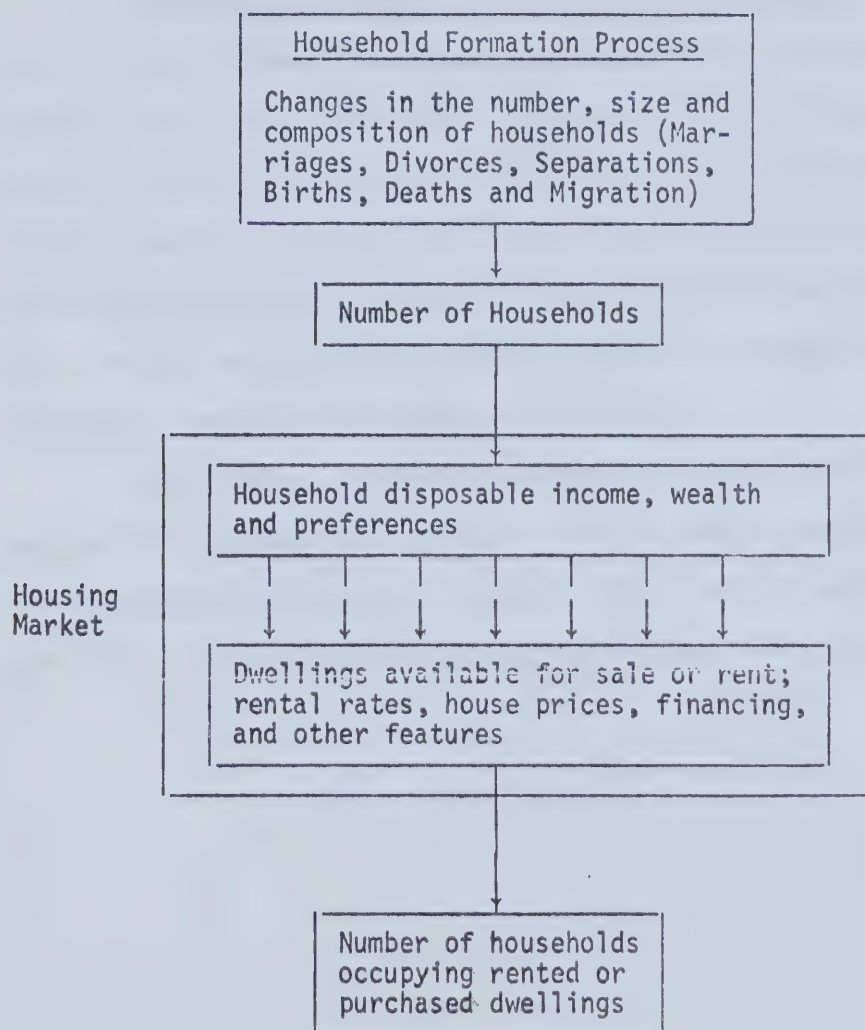
Task

The items to be covered are specified below.

One can view the housing market as two simultaneous and interrelated processes. One is a matching of physical quantities, i.e. of households of different sizes finding dwellings of somewhat corresponding size. The other is a monetary matching, i.e. of households with a certain disposable income and wealth finding rented or owned accommodation depending on rents, prices, down payments, interest rates, etc. Steering these two processes is another one of households evaluating alternatives depending upon economic as well as other features.

A separate but related process is that of household formation. It is partly independent of the housing market but partly influenced by it as the relative attractiveness

Conceptualization of the Edmonton Region Housing Market



of a region is partly a function of the availability and cost of housing. This also affects decisions of growing children to live with their parents or to move into separate accommodation.

The housing market comprises the markets for existing and new homes, the rental market, the home-building market, the lot market and interphases with a number of other markets such as that for land, land-development, servicing, housing materials, labor, etc. It also affects and is affected by the general economic conditions and growth in a region as well as a range of other factors such as land use, zoning, transportation, etc.

The tables following sketch out the information that we believe should be captured for gaining a preliminary understanding of the lot market. We wish to emphasize the need for projections with respect to each of the items.

Item 1: Residential Lot Prices

Average price of a typical serviced R-1 lot in new subdivisions based upon sales to residents.

SUBDIVISION	LOT SIZE	LANE	NUMBER OF LOTS SOLD	REMARKS
<u>Metro Edmonton</u> South West West				
<u>Suburbs and Acreages</u> South West West				

Item 2: Residential Lot Count

Expand the City Planning Department lot count with developer plans for the next three six-month periods. Cover the entire Edmonton sub-region.

Item 3: Cost Component Breakdown

Attempt to obtain a cost component breakdown as illustrated in Appendix III, Exhibit 12 (or similar) for new subdivisions.

Item 4: Housing Inventory (see table following)

An inventory of residential dwellings by type is expected to be available from the City Planning Department's EPIS Project (Research Report No. 8, December 1970). See particularly page 27 and Appendix A.

Some attempt should be made to project changes in the housing stock for the coming eighteen months.

Item 5: Number of Households by Size (see table following)

The number of households by household size is also expected to be available from the EPIS Project with respect to metropolitan Edmonton. Efforts should be made to include also surrounding communities, acreages and farms in the Edmonton area (properly the "Edmonton sub-region").

An attempt should be made to project changes in the household stock over the coming eighteen months.

		Number of Units						Average Rent		
	BR	Metro		Non-Metro		Total				
		Vacant	Occ	Vacant	Occ	Vacant	Occ			
Rented	5+									
	4									
	3									
	2									
	1									
		For Sale	NFS	For Sale	NFS	For Sale	NFS	Price Range	% Fin	Rate
Owned	5+									
	4									
	3									
	2									
	1									

Number of Units			
Size	Metro	Non-Metro	Total
6+			
5			
4			
3			
2			
1			

Item 6: Household Disposable Income

Number of Households							
Income	-5	5-8	8-11	11-14	14-17	17+	Average
Size							
6+							
5							
4							
3							
2							
1							
Total							

Note that wealth as well as disposable income influences the ability of households to purchase homes.

Cost

Since these activities would of necessity be carried out by staff of existing agencies the cost estimates would involve a review of these agencies of their present staff and work programs.

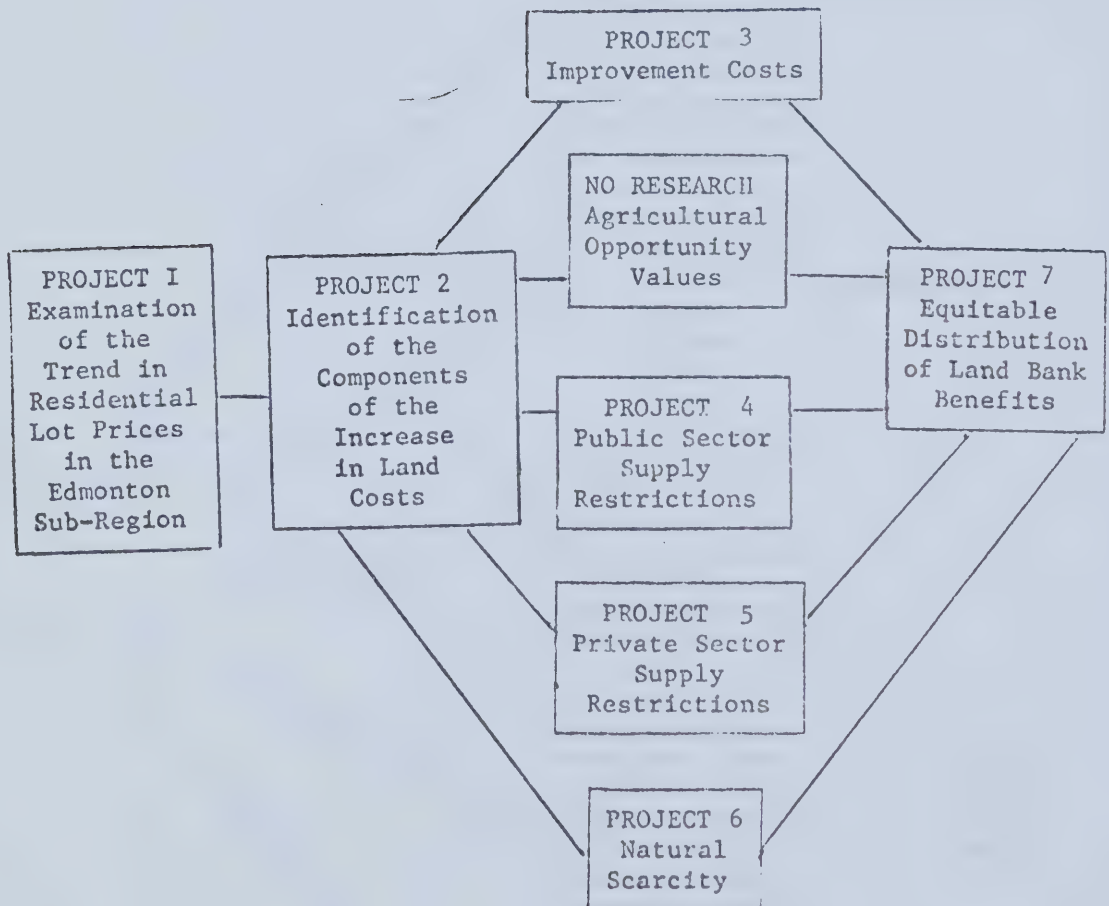
APPENDIX II

CHARTS ILLUSTRATING THE INTERRELATIONSHIPS BETWEEN
RESEARCH PROJECTS AND INTERRELATIONSHIPS BETWEEN
RESEARCH PROJECTS AND DATA REQUIREMENTS

APPENDIX II

CHART I

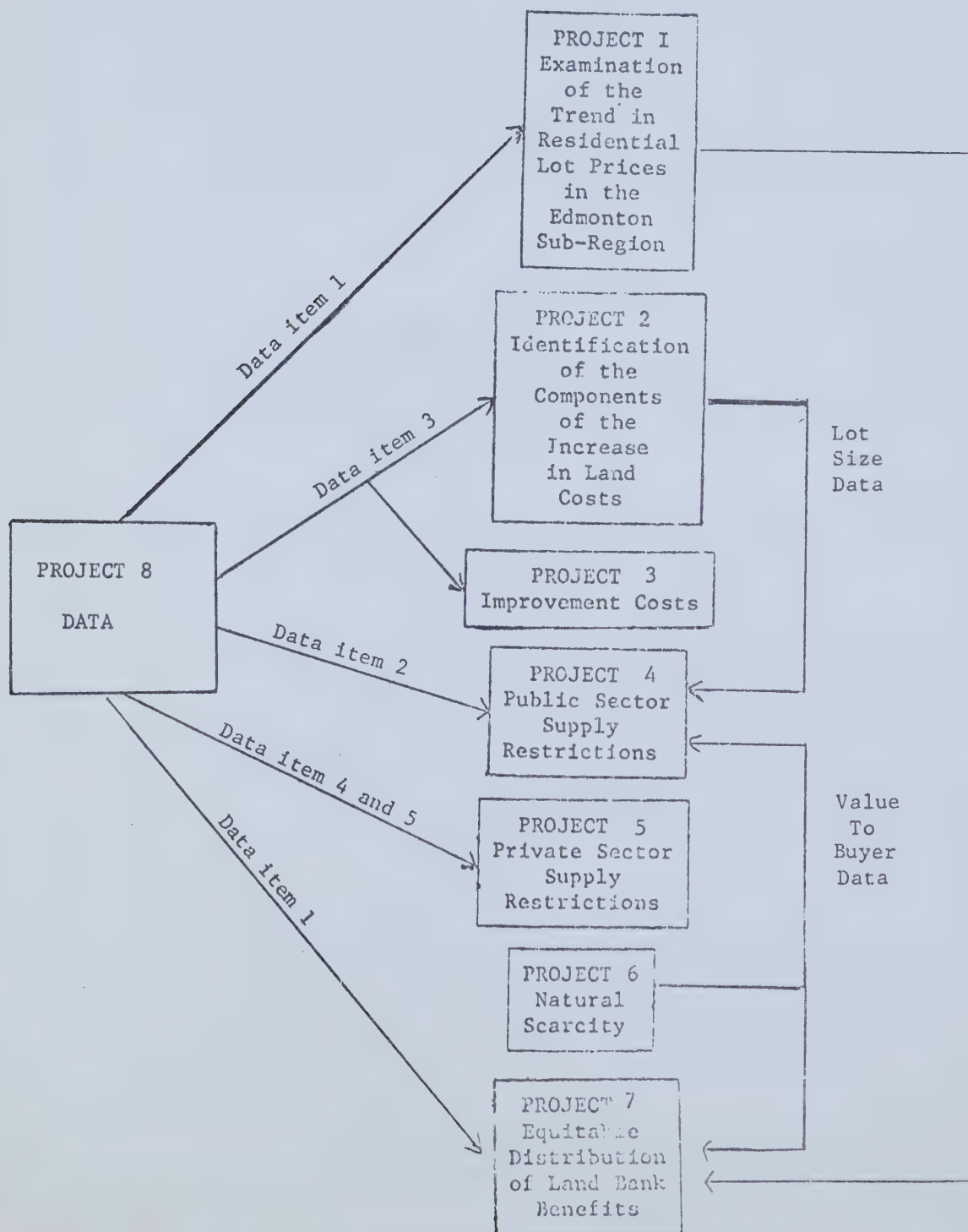
INTERRELATIONSHIPS BETWEEN RESEARCH PROJECTS



APPENDIX II

CHART II

INTERRELATIONSHIPS BETWEEN RESEARCH PROJECTS AND DATA REQUIREMENTS



APPENDIX III
EXHIBITS OF AVAILABLE URBAN LAND
MARKET DATA

EXHIBIT 1: EDMONTON REAL ESTATE BOARD, ANNUAL STATISTICS, 1972

N.L.S. #	SIZE	L.P.	S.P.	DOWN	L.CR.	S.BR.	ADDRESS
RESIDENTIAL LOT SALES JULY & AUGUST 1972							
LR-1577	50 x 121	1,200	1,000	1,000	BUXTON	BUXTON	ALTA. BEACH
LR-1650	50 x 169	960	900	900	GUARANTY TR.	GUARANTY TR.	LAKE ISLE
LR-1978	33 x 132	20,000	18,500	18,500	BURNS & FORTAGE	BURNS & FORTAGE	10746 - 80 AVE.
LR-4689	50 x 150	3,000	3,000	3,000	BUXTON	BUXTON	KAPASU PARK
LR-2425	80 x 160	2,524	1,800	1,800	ROYAL TRUST	ROYAL TRUST	HASTINGS LAKE
LR-2033	116x128x142x56	6,000	6,000	6,000	HICKE	HICKE	102 AVE. & 34 ST.
LR-2156	44 x 136	10,000	10,000	10,000	CITY TRUST	CITY TRUST	8107 - 101 AVE.
LR-2227	50 x 125	10,500	9,500	9,500	MELTON	MELTON	13304 - 121 ST.
LR-2126-71	80 x 160	2,524	1,800	1,800	ROYAL TRUST	ROYAL TRUST	HASTINGS LAKE
RESIDENTIAL LOT SALES SEPT. & OCT. 1972							
LR-2156	44 x 136	10,000	9,000	1,000	CITY TRUST	CITY TRUST	8107-101 AVE.
LR-1892	66 x 130	17,000	16,000	16,000	ECONOMY	ECONOMY	12726-30 - 69 ST.
LR-2021A	66 x 132	70,000	50,000	50,000	WEBER	WEBER	10756-82 AVE.
LR-1601	83 x 320	22,500	20,500	20,500	POTTER	POTTER	WHITEMUD RD.
LR-2207	70 x 120	14,500	14,000	14,000	MELTON	MELTON	5212-142 ST.
LR-2238	80 x 172	2,150	2,000	2,000	ROYAL TRUST	ROYAL TRUST	HASTINGS LAKE
LR-1620	60 x 125	11,500	9,000	4,500	MANNING	MANNING	122 ST & 129 AVE
LR-1799	100 x 150	18,500	18,510	18,510	ROYAL TRUST	ROYAL TRUST	10125 - 160 ST.
LR-2157	54 x 136	12,000	10,500	10,500	CITY TRUST	CITY TRUST	8111 - 101 AVE.
LR-1236	85 x 337	22,000	21,200	21,200	WEBER	BAKER	153 ST. & 46 AVE.
RESIDENTIAL LOT SALES NOV. & DEC. 1972							
LR-1891	50 x 115	\$ 5,562	\$ 7,500	\$ 7,500	CITY TRUST	CITY TRUST	3424-102 AV.
LR-3007	25 x 123(4)	6,000	6,000	6,000	BUXTON	BUXTON	124 AV-53 ST.
LR-2510	63x115x6x189	9,900	4,800	4,800	BERGENT	BERGENT	2 FARGETT DR.
LR-2274	33 x 132	9,200	7,500	7,500	WILLES	WILLES	9339-98A ST.
LR-2012	47x200x150	8,500	7,600	7,800	CAN. FERIA.	CAN. FERIA.	6 GROSVENOR BL.
LR-2226	33 x 133	11,500	10,000	10,000	WEBER EROS.	WEBER EROS.	11120-50 ST.
LR-2532	50 x 150	15,900	15,900	15,900	KELLOUGH	KELLOUGH	11933-87 ST.
LR-2718	100 x 150	36,000	28,000	19,500	FRIESEN	FRIESEN	11853-37-125 ST.
LR-4135	130x78x126	12,900	12,000	4,000	WILROY	WILROY	52 AV-44WHITEMUD
LR-3058	33 x 131	8,900	7,500	7,500	MELTON	MELTON	10514-70 AVE.
LR-4037	50 x 150	17,500	15,500	7,500	FORTUNE	FORTUNE	12033-79 St.

EXHIBIT 2: BETTYSON-TAYLOR, THE PROCESS OF
URBANISATION IN ALBERTA, UNPUBLISHED
MANUSCRIPT, CHAPTER 5

TABLE 6
SUBDIVISION LAND VALUES - EDMONTON AND REGION,
DECEMBER 31, 1971

Municipality	Subdivision	Average Front Footage	Total	% Change from Last Year	Value/ Front Foot
Edmonton	Rundle Heights	52	\$ 2,500	15	\$144
	Steele Heights	52	\$ 7,500	15	\$144
	Dickensfield	53	\$ 8,500	13.3	\$160
	Thorncliff	60	\$ 8,200	13.5	\$137
	Duggan	53	\$ 9,200	10.6	\$174
	Riverbend	60	\$11,300	10.7	\$188
	Hillswood (Richmond)	52	\$ 5,500	N/A	\$106
Sherwood Park	Mills Haven	55	\$ 6,000	21.2	\$109
	Maplewood	55	\$ 6,000	27.2	\$109
	Glen Allen	55	\$ 6,000	N/A	\$109
St. Albert	Braiside	60	\$ 6,600	10.0	\$110
	Lacombe Park	58	\$ 6,100	10.9	\$105
	Forest Lawn	60	\$ 6,600	N/A	\$110
	Grandir Park	60	\$ 7,000	11.1	\$117
Spruce Grove	Brookwood	54	\$ 5,000	23.4	\$ 93
Leduc	Willow Park	54	\$ 4,700	16.0	\$ 87
	Corinthian Park	54	\$ 5,000	23.4	\$ 93
Fort Saskatchewan	Pine View	54	\$ 3,800	8.5	\$ 70
Stoney Plain	Meridian Heights	55	\$ 3,200	N/A	\$ 58

Source: C.M.H.C. Report - Land Values

EXHIBIT 3: GOVERNMENT OF ALBERTA DEPARTMENT
OF AGRICULTURE, RURAL REAL ESTATE
VALUES IN ALBERTA, 1971

TABLE 7
REAL ESTATE VALUES IN THE URBAN PERIPHERIES

<u>Region</u>	<u>Size Class (Ac.)</u>	<u>Total Number of Transactions</u>	<u>Total Acreage Sold</u>	<u>Average Value Per Acre (\$)</u>
Edmonton Periphery	0+ - 5	21	46	2839.13
	5+ - 20	13	137	1246.89
	20+ - 60	22	769	634.76
	60+ - 100	43	3343	290.26
	100+	166	30781	151.85
	*	<u>1</u>	<u>---</u>	<u>-----</u>
	Total	266	35076	183.43
Calgary Periphery	0+ - 5	10	20	819.80
	5+ - 20	9	149	778.05
	20+ - 60	43	1269	497.45
	60+ - 100	20	1549	283.49
	100+	131	32172	106.12
	*	<u>5</u>	<u>---</u>	<u>-----</u>
	Total	218	35159	131.31

* Acreage unavailable.

EXHIBIT 4: GOVERNMENT OF ALBERTA DEPARTMENT
OF AGRICULTURE, RURAL REAL ESTATE
VALUES IN ALBERTA, 1972

TABLE 8
REAL ESTATE VALUES IN THE URBAN PERIPHERIES

<u>Region</u>	<u>Size Class (Ac)</u>	<u>Number of Observations</u>	<u>Total Acreage Sold (Ac)</u>	<u>Average Value Per Acre \$</u>
Edmonton Periphery	0+ - 5	62	109	8218.59
	5+ - 10	22	185	2071.80
	10+ - 60	66	2258	578.11
	60+ - 150	157	14196	261.47
	150+ - 170	303	48037	158.39
	>170	83	26601	228.42
	*	<u>10</u>	<u>--</u>	<u>--</u>
	Total	703	91386	218.60
Calgary Periphery	0+ - 5	16	34	4459.36
	5+ - 10	7	59	2418.85
	10+ - 60	213	5641	580.55
	60+ - 150	108	11268	284.93
	150+ - 170	225	35766	181.87
	>170	140	50613	116.28
	*	<u>6</u>	<u>--</u>	<u>--</u>
	Total	715	103381	185.44

* Acreage unavailable

**EXHIBIT 5, GOVERNMENT OF ALBERTA DEPARTMENT
OF AGRICULTURE, RURAL REAL ESTATE
VALUES IN ALBERTA, 1972**

**FIGURE 6
EDMONTON AREA REAL ESTATE VALUES**

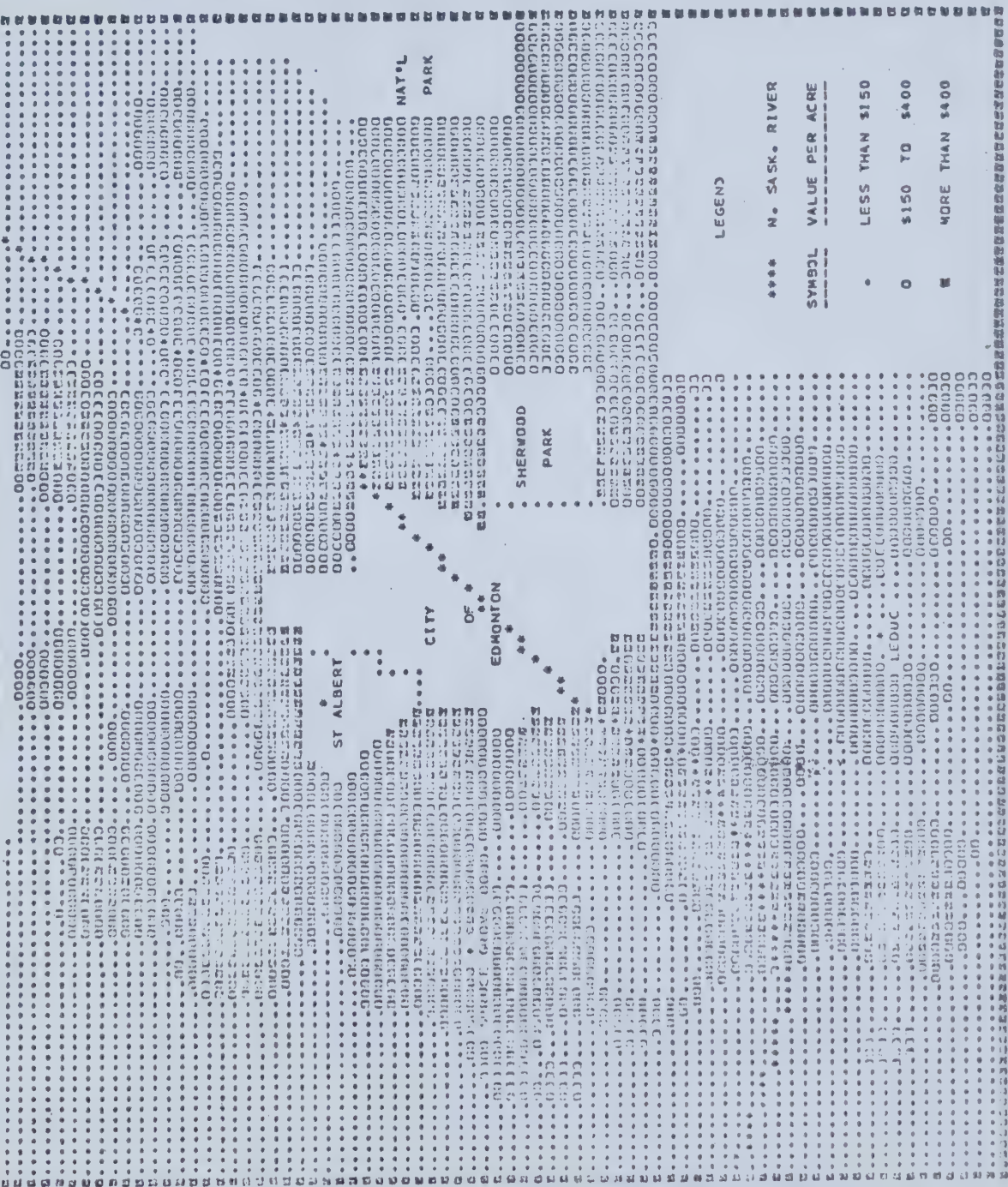


EXHIBIT 6: EXAMPLES OF (APPROXIMATE) MARKET PRICES FOR STANDARD
50 FOOT LOTS IN NEW SUBDIVISIONS IN EDMONTON¹

<u>YEAR</u>	<u>SUBDIVISION</u>	<u>LOT PRICE</u>	<u>LOCAL IMPROVEMENTS</u>	<u>AVERAGE LAND VALUE</u>	<u>REMARKS</u>
1955	Petrolia	4700-4900	1750	3100	
	Malmo	4800-5100	1750	3200	
1966	Malmo	5000-5100	1750	3300	Last few lots in subdivision
1967	Petrolia	4700-4900	1800	3050	
	Malmo	5100-5200	1800	3350	Two lots only
	Steele Heights	3800-4200	1800	2200	
1968	Petrolia	5900-6150	2000	4000	Lots sold by tender
	Steele Heights	4800-5200	2000	3000	
1969	No City Lots Sold		2300		
1970	Dickensfield	7100-7500	2450	4800	
1971	Dickensfield	7100-7500	2850	4400	
1972	No City Lots Sold		3400		
1973	Steele Heights	8200-9300		5350	Lots sold by tender

¹ Lot prices (including local improvement charges) based on actual city sales plus some 10 percent as the lots were generally sold below prevailing market prices. (Interview with Mr. John H. Clarke, Property and Building Management Department, City of Edmonton, February, 1973.)

EXHIBIT 7: APPROXIMATE LOCAL IMPROVEMENT COSTS
FOR A STANDARD 50 FOOT RESIDENTIAL
LOT PER ASSESSABLE FRONT FOOT

YEAR	LOCAL IMPROVEMENTS ¹ (\$)	SEWERS ² (\$)	
1965	34.58	-	
1966	34.65	13.50	Storm sewer cost not included in local improvements
1967	35.37	13.52	
1967	35.37	13.52	ditto
1968	39.99	16.50	ditto
1969	46.09	18.50	ditto
1970	48.87	19.50	20% included
1971	57.45	25.20	60% included
1972	67.61	33.04	100% included
1973	80.00	-	

¹Costs based upon 2 inch asphalt streets, 4'6" walks with curbs, gravel lanes, lights, underground power, sewer and water. (H.O. Johnson, Department of Engineering and Transportation, City of Edmonton.)

²Construction cost including service to property line. (George Hodge, City Engineer, City of Edmonton, Annual Local Improvement Reports.)

EXHIBIT 8: DERKOWSKI, A: RESIDENTIAL LAND DEVELOPMENT IN ONTARIO,
URBAN DEVELOPMENT INSTITUTE OF ONTARIO, NOVEMBER 1972

TABLE A5: COSTS OF SERVICING OF A TYPICAL SINGLE LOT IN SCARBOROUGH,
1963-1970

Y E A R	1963	1964	1964	1965	1965	1966	1967	1968	1969	1970	Chart- well (C. & C.)
Location	"Harenced III" Ellesmore and Bellamy Roads	"Sellamere" Ellesmore & Bellamy Rds.	"Dolphin Heights" Markham & Ellesmore	"Midland Heights" Midland & Sheppard	"Stableford" Ellesmore & Lawrence	"Whitehaven" Markham & Finch	"Agincourt" Phase 1 Birchmount & Sheppard	"Corinthian Park Pharmacy & Finch Ave.	Centennial Park (S.E. corner Scarborough	S.E. Corner of Borough (P. & R.)	Baylawn sub- division (C. & C.)
Number of Lots ^a	298	243	230	128	244	203	295	320	330	62	141
Roadways and earth moving	\$249,300	\$205,120	\$231,232	\$96,200	\$199,800	\$176,640	\$387,062	\$378,749	\$467,400	\$71,020	\$194,349
Sewers	227,100	91,790	227,478	92,000	155,989	194,375	410,204	483,821	446,800	76,880	167,801
Watermains	90,700	190,400	98,981	19,550	70,050	48,283	203,329	100,908	120,800	19,840	45,735
House connections	49,600	41,450	25,762	22,400	46,980	51,115	57,237	74,655	75,400	14,260	33,000
Underground hydro	-	41,900	64,000	30,600	51,900	50,000	69,000	59,400	88,000	14,880	50,300
Miscellaneous	7,100	1,600	11,660	-	-	-	29,450	9,038	-	-	30,200
External costs (est.) ^b	35,000	29,300	inc. above	20,000	58,400	30,000	inc. above	inc. above	100,000	26,040 ^c	50,000
Township levies and contributions	99,200	104,600	72,000	46,825	76,000	63,000	88,000	193,912	117,017	40,300	103,210
Professional fees and bonding	73,200	61,000	59,000	30,600	70,719	54,036	148,690	153,300	128,650	37,200	66,547
Total Servicing Cost	833,200	747,160	790,183	358,375	739,834	667,449	1,292,882	1,462,784	1,555,467	307,520	746,223
Servicing Costs per Lot	2,800	3,070	3,440	2,880	3,040	3,290	4,390	4,570	4,700	4,960	5,292
											5,356

^aAdjusted where required to represent an equivalent number of 50' wide single lots.

SOURCE:

Two consulting engineering firms:
Cumming-Cockburn and Associates Ltd., and
Proctor and Redfern.

^bThis figure varies widely, depending mainly on the location of the given subdivision
relative to existing trunk sewers.

^cAdjusted downward to approximate average Scarborough conditions.

EXHIBIT 9: COSTS OF SERVICING OF A TYPICAL SINGLE LOT IN SCARBOROUGH, 1963-1970

SERVICE COSTS VS % OF TOTAL LOT COSTS

	1963	1964	1964	1965	1965	1966	1967	1968	1969	1970	1970	1970
Sector =												
1/service cost												
per lot												
	(.003604)	(.0003252)	(.000291)	(.000357)	(.000334)	(.000304)	(.000228)	(.000219)	(.000212)	(.000206)	(.000189)	(.00018)
Roadways and		25.48*										
earth moving	30.15	27.45	19.15	26.83	27.34	26.45	29.91	25.92	30.05	23.89	26.05	31.98
Sewers		6.93*										
	27.70	6.93	28.78	26.65	21.35	29.10	31.70	33.11	28.70	25.54	22.49	27.72
Watermains												
	10.97	25.48	12.52	5.45	9.58	7.23	7.98	7.52	8.33	6.59	6.13	8.66
House connections												
	5.99	5.54	3.25	6.24	6.43	7.65	4.42	5.11	4.90	4.73	4.42	4.67
Underground Hydro												
	-	8.28	8.09	8.59	7.10	7.48	5.33	4.06	5.71	4.94	6.75	6.21
Miscellaneous												
	.08	.21	1.47	-	-	-	2.27	.61	0	0	4.04	-
External costs												
	4.23	3.92	-	5.57	7.99	4.49	-	-	6.42	8.65	6.70	12.80
Township levies												
and contributions	11.99	13.99	9.10	13.05	10.40	9.43	6.80	13.27	7.51	13.39	14.50	-
Professional fees												
and bonding	8.85	8.16	7.46	8.55	9.68	8.09	11.48	10.49	8.26	12.36	8.91	8.09

*Indicates corrected figures

April 1973

EXHIBIT 10: AVERAGE COST OF SERVICED LOTS INCLUDING
 LOCAL IMPROVEMENTS FOR R-1 PRIVATE LAND IN LEE RIDGE
 NEIGHBORHOOD. (PROVIDED BY MR. B. THOMAN,
 MILL WOODS PROJECT, APRIL 1973

	<u>\$ per front foot</u>	<u>\$ per 50 foot lot</u>
Storm Sewers (prorated by acreage)	22.50	1125.00
Sanitary Sewers	9.91	496.00
Water	4.73	237.00
Asphalt (2 inch)	18.08	904.00
Sidewalks (4'6" incl. curbs)	6.04	302.00
Street Lighting	1.56	78.00
Walkways	8.29	415.00
Power (underground)	2.56	128.00
Replotting Costs	3.11	156.00
Lane (gravel)	3.57	179.00
Finance Charges	2.81	141.00
Rounding Error	-	3.00
Cost of Services	83.16	4161.00
Land	44.00	2200.00
TOTAL	<u>127.16</u>	<u>6361.00</u>

EXHIBIT 11: AVERAGE COST OF SERVICED LOTS INCLUDING
 LOCAL IMPROVEMENTS FOR R-1 PRIVATE LAND IN TWO MILL
 WOODS NEIGHBORHOODS (PROVIDED BY MR. B. THOMAN,
 MILL WOODS PROJECT, JUNE 1973)

	<u>\$ per front foot</u>	
	<u>Tweddle Place</u>	<u>Kameyosek</u>
Storm Sewers (prorated by acreage)		
Storm Sewers (prorated by acreage)	22.97	22.19
Sanitary Sewers	7.71	6.72
Water	5.65	5.82
Asphalt (2 inch)	18.80	18.95
Sidewalks (4'6" incl. curbs)	6.47	7.23
Street Lighting	1.77	1.86
Walkways	6.22	7.01
Power (underground)	2.87	3.01
Replotting Costs	3.00	3.39
Lane (gravel)	3.64	3.62
Finance Charges	6.72	6.79
Rounding Error	<u>-</u>	<u>-</u>
Cost of Services	85.82	85.59
Land	<u>45.00</u>	<u>45.00</u>
TOTAL	<u>130.82</u>	<u>131.59</u>

EXHIBIT 12: CITY OF EDMONTON, PLANNING DEPARTMENT
SUPPLY OF VACANT SERVICED LOTS IN DEVELOPING
RESIDENTIAL AREAS, APRIL 1973

STATUS OF SINGLE-FAMILY LOTS IN SELECTED SUBDIVISIONS
APRIL 30, 1973

Subdivision	Date	Number of Registered Lots	Serviced Lots	UnSer Lots	Lots Ser Since Last Count	Built Up	Vacant Serviced	Permits Is- sued Since Last Count
<u>WEST TOTAL</u>								
Buena Vista*								
Patricia Heights*	Mar. 31, 1971	1640	1449	191	82	1195	254	43
Quesnell Heights*	Oct. 31, 1971	1649	1620	29	171	1312	308	117
Rio Terrace*	Apr. 30, 1972	1649	1620	29	0	1425	195	113
Westlawn*	Oct. 31, 1972	1927	1674	253	54	1499	175	74
Thornclyff	Apr. 30, 1973	765	498	267	0	373	74	71
Summerlea								
Callingwood								
Aldergrove								
<u>NORTHEAST TOTAL</u>								
Dickinsfield	Mar. 31, 1971	4856	4546	310	151	3750	796	234
Londonderry*	Oct. 31, 1971	4856	4689	167	143	4355	345	605
Rundle Heights*	Apr. 30, 1972	4856	4856	0	167	4580	276	225
Steele Heights*	Oct. 31, 1972	5118	4886	232	30	4719	170	139
	Apr. 30, 1973	3713	3713	0	232	3447	266	128
<u>NORTH TOTAL</u>								
Caernarvon (Castle Downs)	Mar. 31, 1971							
	Oct. 31, 1971							
	Apr. 30, 1972							
	Oct. 31, 1972	200	200	0	200	0	200	0
	Apr. 30, 1973	527	527	0	327	177	350	177
<u>SOUTHWEST TOTAL</u>								
Duggan	Mar. 31, 1971	2079	1814	265	11	1376	438	102
Lansdowne*	Oct. 31, 1971	2320	2227	93	417	1710	517	334
Westbrook Estates*	Apr. 30, 1972	2320	2227	93	0	1896	331	186
Brander Gardens	Oct. 31, 1972	2547	2547	0	320	2069	478	173
Brookside	Apr. 30, 1973	1944	1944	0	0	1685	259	207
<u>SOUTHEAST TOTAL</u>								
Richfield	Mar. 31, 1971							
Lee Ridge	Oct. 31, 1971							
	Apr. 30, 1972	396	293	103	293	25	268	25
	Oct. 31, 1972	396	293	103	0	236	57	211
	Apr. 30, 1973	802	692	110	502	266	529	30
<u>GRAND TOTAL</u>								
	Mar. 31, 1971	8575	7809	766	244	6321	1488	379
	Oct. 31, 1971	8825	8536	289	731	7377	1170	1056
	Apr. 30, 1972	9221	8996	225	460	7926	1070	549
	Oct. 31, 1972	10188	9600	588	604	8523	1080	597
	Apr. 30, 1973	7700	7323	377	958	5948	1478	613

* Subdivision has been deleted from the April 30, 1973 lot count.

City of Edmonton
Planning Department
May, 1973

APPENDIX IV
SAMPLE QUESTIONNAIRE

Sample of Basic Questionnaire

Survey Research Center
The University of Michigan

Project 756
September 1966

1.

Interviewer's Label

2. Chain Number _____

3. Link Number _____

4. Date _____

5. INTERVIEWER:

List below all persons, including children, living in the Dwelling Unit.

LISTING BOX

5a. All persons, by relation or connection to head	5b. Sex	5c. Age	5d. Family Unit No.	5e. Indicate Respondent by Check ✓
1. HEAD OF DWELLING UNIT			1	
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				

INTERVIEWER:

Interview any responsible adult (person aged 18 or older or married person) in Family Unit No. 1 above (Head's family).

6. How many rooms do you people have in this (house, apartment), not counting bathrooms?

7. When did you move into this (house, apartment)? _____
(MONTH) (YEAR)

8. We're interested in the reasons people move. How did you happen to move here?

Source: John B. Lansing, Charles Wade Clifton, James M. Morgan,
New Homes and Poor People: A Study of Chains of Moves,
(Ann Arbor, Michigan: University of Michigan Survey
Research Centre), 1969.

8. Did you move here directly from your former home or did you stay someplace else for a while?

☐ MOVED DIRECTLY

☐ STAYED SOMEPLACE ELSE

9a. Did you move in with someone, stay in a motel, rent an apartment or a house temporarily, or what?

9b. How many months did you stay there? (NEAREST MONTH)

☐ LESS THAN 1

☐ 1-2

☐ 3-4

☐ 5-6

☐ OVER 6

☐ Not counting your temporary housing, I'd like to ask you about your last home. (GO TO Q. 9c)

☐ I'd like to ask you about that place. (GO TO Q. 9c)

9c. Was the place where you lived a private house, a 2-4 family house, an apartment in a regular apartment building, or what?

☐ PRIVATE HOUSE

☐ 2-4 FAMILY HOUSE

☐ OTHER (specify) _____

☐ APARTMENT IN REGULAR APARTMENT BUILDING

10. What was the address of that place?

(STREET AND NUMBER)

(TOWN OR CITY)

(STATE)

11. (IF APARTMENT AND IF RESPONDENT HAS NOT ALREADY GIVEN APARTMENT NUMBER IN ADDRESS):

Which apartment was it at that address?

12. Has somebody moved into that (house, apartment) since you moved out?

☐ YES - (GO TO Q. 13)

☐ DON'T KNOW - (SKIP TO Q. 14)

☐ NO

12a. Why not?

The D. U. was destroyed: (CHECK THE REASON)

☐ PURPOSEFULLY DEMOLISHED (OR ABOUT TO BE)

☐ CONVERTED TO NON-RESIDENTIAL USE (OR ABOUT TO BE)

☐ REMODELED TO BECOME PART OF A LARGER D.U. (OR ABOUT TO BE)

☐ DESTROYED BY STORM OR FIRE

☐ OTHER (specify) _____

(SKIP TO Q. 17)

The D. U. was not vacated: (CHECK THE REASON)

☐ R'S PARENTS STILL LIVE THERE

☐ R'S OTHER RELATIVES STILL LIVE THERE

☐ R'S ROOMMATES STILL LIVE THERE

COMMENTS (if any): _____

(SKIP TO Q. 20)

☐ THE D.U. IS TEMPORARILY VACANT

☐ OTHER (specify) _____

(SKIP TO Q. 14)

13. Who lives in that (house, apartment) now?

☐ DON'T KNOW NAME

(NAME, IF AVAILABLE)

14. Would a person have any trouble finding the address where you used to live?

15. After he got there, would he have any problem in knowing he had exactly the right place?

16. We will want to get in touch with the people who moved (will move) into your former home, probably in person, but perhaps by phone or mail. In case we should have any trouble finding them, can you tell us the name and address of a neighbor or someone else who could help us?
(INTERVIEWER: PERHAPS APARTMENT MANAGER OR REAL ESTATE AGENT)

17. Compared to where you lived before, how do you like living here?

☐ Like it better

☐ About the same; better in some ways but worse in others

☐ Don't like it here as much

Comments: _____

18. In the (house, apartment) where you used to live, how many rooms did you people have, not counting bathrooms? _____

4.

19. Did you own it or rent it or what?

☐ OWN ☐ RENT ☐ NEITHER (explain) _____

(IF OWNED) 19a. About how much is it worth? \$ _____

(IF RENTED) 19b. About how much rent did you pay there? \$ _____ per month

20. Now about your present home: do you people own this home or pay rent or what?

☐ OWN ☐ RENT ☐ NEITHER (explain) _____

(IF OWNS) 20a. About how much is the house worth? \$ _____

(IF RENTS) 20b. About how much rent do you pay? \$ _____ per month

21. Now just a few more questions about your family: How many years of school did the head of the family finish? _____

(IF MORE THAN 12) 21a. Does he (she) have a college degree? ☐ YES ☐ NO

22. Approximately what was your total family income for last year - I mean 1965? (SHOW CARD)

A. ☐ LESS THAN \$2000	D. ☐ \$4000-4999	G. ☐ \$7500-9999
B. ☐ \$2000-2999	E. ☐ \$5000-5999	H. ☐ \$10,000-14,999
C. ☐ \$3000-3999	F. ☐ \$6000-7499	I. ☐ \$15,000 OR MORE

Thank you very much for your cooperation!

BY OBSERVATION:

23. INTERVIEW WAS TAKEN AT:

☐ SINGLE FAMILY HOME

☐ 2-4 FAMILY HOME

☐ APARTMENT - 5 OR MORE DWELLING
UNITS IN BUILDING

☐ OTHER - (specify) _____

24. Race of Respondent: ☐ WHITE ☐ NEGRO ☐ OTHER(specify): _____

Mail Questionnaire # _____

1. Where did you live just before you moved to this address? (Please give us the complete address of your former home.)

2. Has anyone moved into the place you left? ☐ YES ☐ NO ☐ DON'T KNOW

3. What is the name of the head of the family who moved into your former home after you left?

- ☐ I know no one has moved in ☐ I know someone moved in but I don't know his name
☐ I don't know if anyone moved in

PLEASE CHECK THE ANSWER TO EACH OF THE FOLLOWING QUESTIONS WHICH COMES CLOSEST TO DESCRIBING YOUR FAMILY SITUATION:

4. How many people are there in your family here, including children?

- ☐ 1 person
☐ 2 people
☐ 3 people
☐ 4 people
☐ 5 or more people

5. Do you own your home or pay rent? ☐ We own it ☐ We pay rent

6. What was your total family income last year?

- ☐ Less than \$2000
☐ \$2000-2999
☐ \$3000-3999
☐ \$4000-4999
☐ \$5000-5999
☐ \$6000-7499
☐ \$7500 or more

7. If you would like a copy of a report on the results of this study, please check here: ☐

APPENDIX V

BRIEF REVIEW OF THE MILL WOODS PROJECT

This appendix is intended to provide some preliminary background about Mill Woods for readers who may not be familiar with Edmonton and its land bank.

Mill Woods is located in the south east sector of Edmonton about seven miles from the city centre. The nine-square-mile area, bounded by 91 and 34 Streets and 51 and 15 Avenues, contains almost 6,000 acres and is expected to accommodate 120,000 people in the early 1990's. (See sketch 1.) About 4,400 acres are publicly owned, which makes the project the largest land bank in Canada.

The Alberta Housing Corporation quietly purchased the land during 1969, and it will be acquired by the city over a fifteen year period beginning January 1, 1971 under an agreement with that Corporation. The purpose of the land bank assembly program has been expressed as:

the maintenance of a continuous and adequate supply of land for housing so that the trend to spiralling costs, particularly for land, may be reversed; and the progressive servicing of land in the area to provide public and private housing of good quality at minimum cost.¹

The Mill Woods Project also has a set of ancillary objectives related to providing citizens with a socially desirable living environment in an urban context.²

¹Mill Woods Development Concept Report, op. cit.

²These are discussed in the Mill Woods Concept Development Report, op. cit.

To date the Mill Woods Project has supplied about 700 single and two-family residential lots.³ About 325 lots were sold in Richfield during 1972 and another 100 in 1973 with a price of \$6,000. for a typical single family 55 foot residential lot. Some 300 houses are under construction or already constructed. Another 300 lots were sold in Lee Ridge during the first half of 1973 with a corresponding typical price of \$7,000.⁴

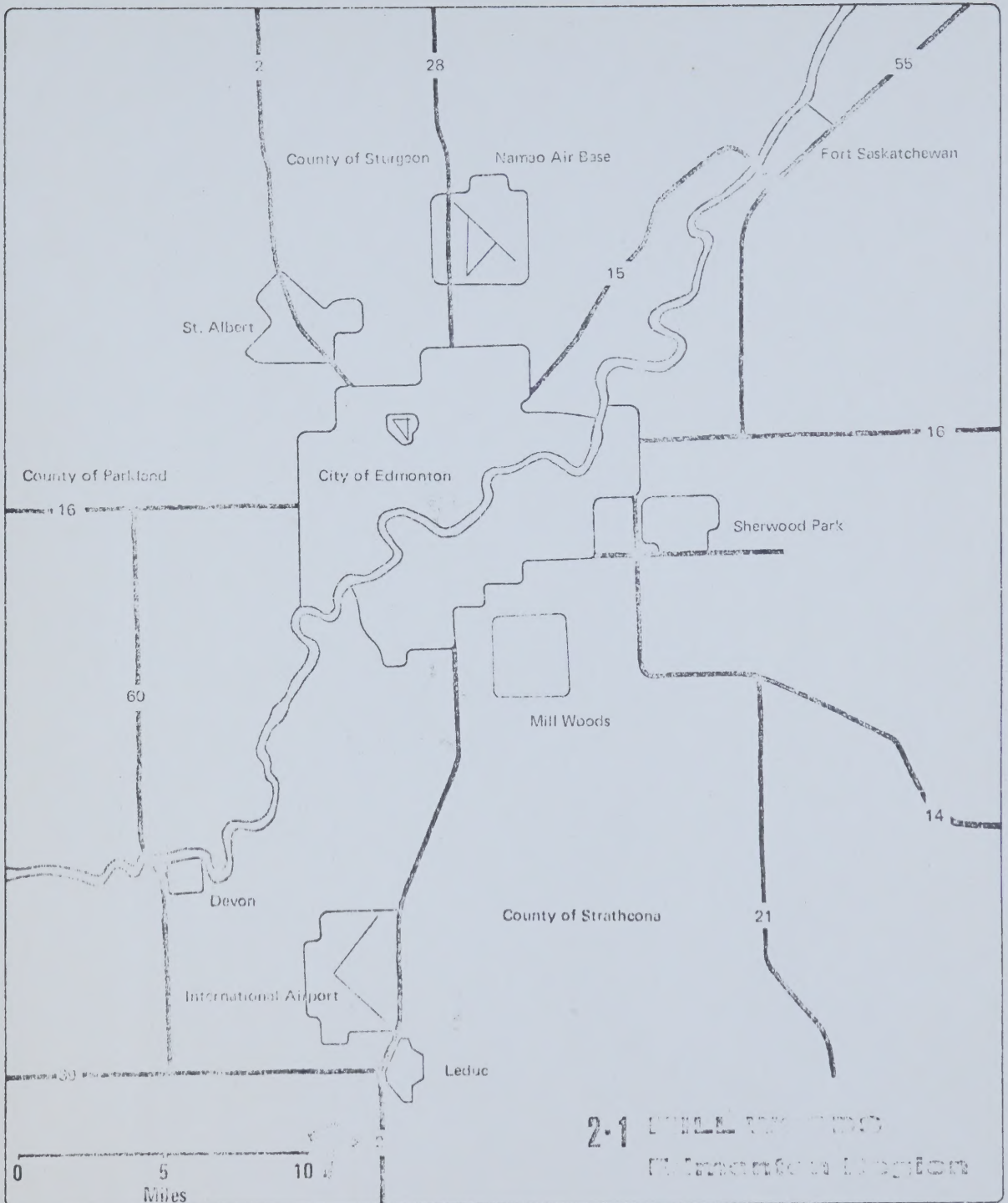
A further 800 lots will be offered in August, 350 in Kameyosck and 450 in Tweddle Place, for a corresponding typical price of \$7,200. Another 250 will become available in Michaels Park by September. About 1600 lots are planned for 1974.

The proportion of lots offered to builders has increased somewhat. It was fifty percent in Lee Ridge and will be sixty in Tweddle Place and Kameyosek.

³Lot price and quantity information based upon interview with Bill Thoman of the Mill Woods Project, June 19, 1973.

⁴The \$1,000 price increase was due to increased cost of local improvements.

SKETCH I



SOURCE: Mill Woods Development Concept Report, City Planning Department, City of Edmonton, March 1971.

